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How Atari's machine took off

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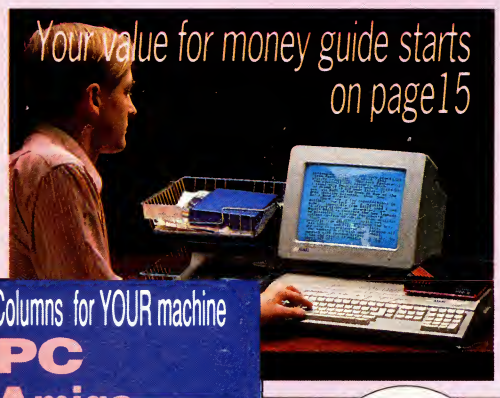

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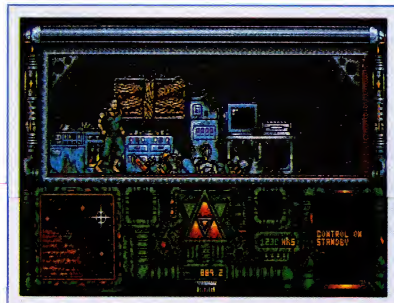

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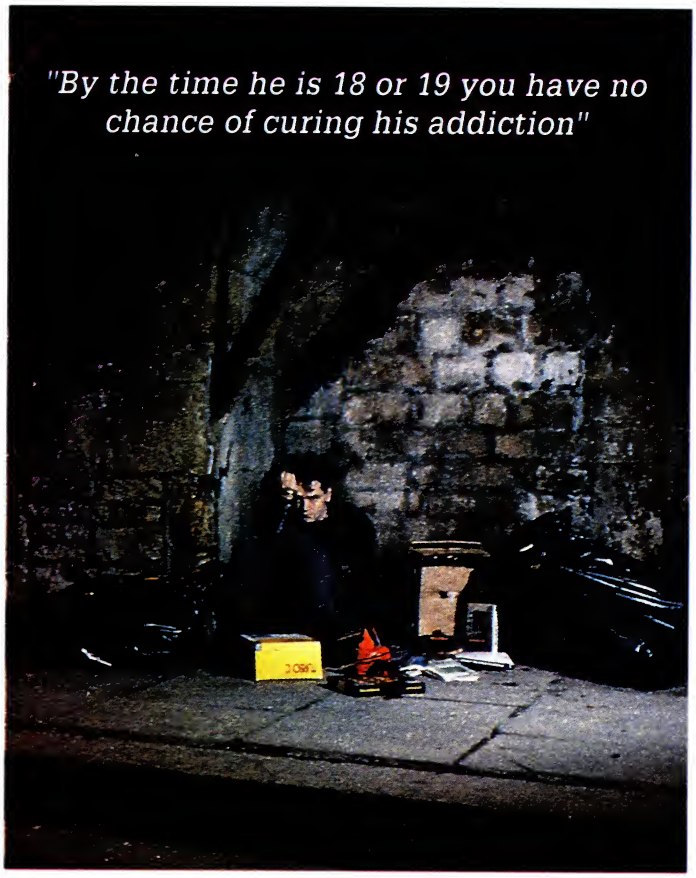
Users warned of dangerous addiction

COMPUTERS CAN REALLY SCREW YOU UP...



• Computer junkie: The computer is the most important thing in his life

Leading child psychologists are warning that young people who use computers excessively are putting their health at risk.

The doctors in the UK and America have pinpointed a socially crippling disease called Technostress. Computer whizzkids who spend their lives with computers are distancing themselves from the real world with devastating results.

Symptoms include fatigue, short attention span, impatience, irritability and an insistence on yes/no answers. The doctors claim that some 3 million children in the US alone suffer from Technostress. No figures are available for the UK – which boasts more computers per household than any other country in the world.

The victims are often gifted youngsters who are shy and clumsy in early youth. As they grow older the kids remove themselves from peers to play with their computers. The computer soon replaces the childs' friends and it has the extra bonus of letting him always be in control.

The youngsters who miss out on a normal adolescence grow up to be completely reliant on the computer living a lonely life of keyboard tapping. Even micro shows are out of the question for the computer junkie who is afraid of contact with other people.

Harley Street child psychiatrist Dr Joan Freeman explained: "Boys are more at risk than girls. They are more likely to be uneasy and shy with other people." She added: "This predisposes them to letting a computer take the place of usual childhood activities and friendships.

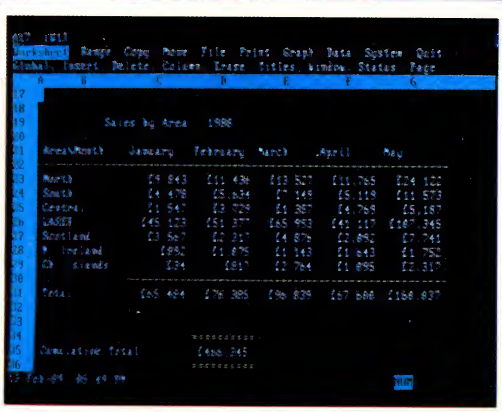
"The computer, they soon learn, lets them be in control. It doesn't argue back and it does what you want to. People aren't like that."

Dr Freeman also told of cases of young men who had reached their mid twenties and had never taken a girl out. She warned: "Parents should keep a look out for the symptoms while the child is still young enough to be lured away from the computer. By the time he is 18 or 19 you have no hope of curing him of his addiction."

She told of one typical cyber-junkie who first started playing with computers in his first year at secondary school. He used the computer to steer clear of the other kids during break times but within a matter of months he couldn't bear to be away from the machine.

Today he is 18 and will not speak to anyone, not even his bewildered parents. He has completely withdrawn from any social contact.

Low end Lotus 1-2-3 PC upgrade drafted in



• Lotus 1-2-wait for it: No version 3 yet, but an upgrade to version 2

An upgraded version of the standard spreadsheet *Lotus 1-2-3* will soon be launched – but it's not the long awaited Version 3.0.

Lotus has announced a middle man spreadsheet, Version 2.2, which will cater for low end PC users. The firm feels that *1-2-3* Version 3 is far too powerful for 8086/88 PCs and suited more to the 286, 386 and even 486 sector.

Version 2.2 will cost £395 and boasts faster calculations, higher quality graphics and charts and improved printer functions. However, low end PC owners will miss out on the much delayed 3D Version 3 which will be available late in the summer.

"The PC user base is so broad now that it's difficult to bring out a package to cover everything," explained a Lotus spokesman to *Express*. "We had to make a choice between cutting back on version 3's capabilities or leaving out the low end sector. The solution is to bring in an extra version."

Easter bundle

• Muscling in: Easter compilation

Easter is always a jolly good time to go out and treat yourself to a compilation. As such US Gold has launched *Arcade Muscle*.

With prices starting at £13, it's only available for the big three 8-bit machines.

Arcades Muscle contains the likes of *Roadblasters*, *Bionic Commando*, *1943*, *Sidearms* and *Street Fighter*.

Fury over 'cop killing' game

Furious anti-violence campaigners in the US have erupted in anger over a new game for the Nintendo called *City Connection*.

The game involves a thief escaping from the police through New York, London and Paris. The campaigners are "most disturbed" at one aspect of the game which involves pushing police cars off the roads.

The International Coalition Against Violent Entertainment wants Nintendo to voluntarily withdraw the game. It is currently drawing on the support of influential groups in the US such as the American Police Association.

"We're very concerned about this game," said ICAVE's Dr Vince Hammond. "It's bad enough portraying violence but this makes the criminal out to be a hero. In a real life scenario cops would get killed."

"We're continuing our tests on these games. They contribute to criminality. Playing these games makes children and adults more conditioned to violence and crime."

Nintendo preferred not to comment on this matter. However, the firm has long taken a strong stand at what it calls "sensationalist charges". A 36-page document produced by Nintendo earlier this year sought to prove that computer and video games are not harmful and contribute to the learning process."

• Don't push me: Fury is erupting over Nintendo's new game

CRACKDOWN

Playground pirates pitched in new campaign

• Sinking the pirate ship: Co-ordinator of FAST Bob Hay

Software pirates, watch out. In an effort to combat the problem of computer piracy, the entire games industry has joined forces for an all-out awareness campaign.

Software houses, the Federation Against Software Theft and a number of leading computer magazines will all be pitching in to stem the tide of software piracy which threatens to submerge the industry.

Already Ocean has pledged to feature warning flashes on its games stating that copying is an illegal activity. Other publishers are expected to follow suit, such as Activision – a hardened anti-piracy campaigner.

Magazines from publishers such as Future, EMAP, Newsfield, Database and Gollner will be offering colour advertising space carrying the message.

And plans are afoot to include a two-minute warning video on the in-store promotional films similar to those at the start of normal video cassettes.

The idea is to increase awareness amongst youngsters that copying software is illegal and that culprits can be prosecuted. Whilst it is accepted that professional crooks will simply ignore the campaign, it is hoped that the "playground pirates" will heed the warning.

"Leading industry figures have been very receptive to this idea," said FAST co-ordinator Bob Hay. "I'm delighted that this has fallen on fertile ground."

He told *Express*: "We will be sitting down to decide which is the proper way to conduct the campaign. It's no good old fogies like me preaching to kids, we want the talented youngsters which users admire to pledge their support."

Cynics have suggested that the problem is so widespread that punters will never change. Hay commented: "We wouldn't do it if we thought it wouldn't work." FAST hopes that people who think piracy is a normal pattern of behaviour will realise that it is indeed illegal and damaging.

OUT OF SOUTH AFRICA

US giant Hewlett-Packard is to pull out of South Africa because "there appears to be no significant progress in bringing about an end to apartheid".

Hewlett-Packard South Africa contributes about one per cent to the firm's turnover ($62 million). It is being sold off to South African company Siltek.

Young at heart

Youngsters in selected primary schools have spent the past few months grappling with the Amiga 500 – and they've taken to it like child's play.

Commodore gave away a number of the machines to 20 primary schools around the country "for evaluation". Eight and nine year olds in Berkshire, Northumberland, Norfolk and Cheshire have been using them to learn about colour, symmetry and writing.

The schools used such packages as *Deluxe Paint* and *KindWords*. A Commodore spokesman said: "We didn't want to talk about it before in case the project was a disaster, but it's been a great success."

Numbers game

Around the world, more than one million new computers are installed every month, according to the *Daily Mirror*. And, more than £360 billion is spent on software very year.

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NEW COMPUTER EXPRESS

COMMENT

What a load of junkie

At last, surprise surprise, the announcement has come that young computer users can become addicted to their machines, and suffer genuine physical symptoms normally associated with addiction to, and withdrawal from, alcohol or proscribed drugs.

Fair enough, but if we're not careful we'll have the rent-a-quote brigade in when the story gets taken up by the tabloids; they'll be demanding health warnings be put on all computers, pointing out the health hazards already associated with prolonged periods of VDU use, and probably pressing for legislation to make all computers automatically switch off after an hour's continuous use after displaying the message 'Now go out and get some fresh air'.

So if and when the Sensible Older Generation start demanding Something Should Be Done about young people using computers too much, the following points should be made. The dangers present in computing are less than those in alcohol, soft drugs, cigarettes, coke or even Mars bars (people have actually died from ODs of coke and Mars bars). Sure, using your computer, whether it be to play games, word process or whatever, can be completely absorbing and addictive in the non-physiological sense; but 99% of us who have grown up with computers treat them for what they are – useful and enjoyable machines, like walkmans or videos or cars (except that computers don't contribute to the greenhouse effect). The 1% junkie mentality is present in all sections of the population, and computing is just as liable to bring it out as anything else.

Ocean wave?

It looks like Ocean, which always dominates the top ten full-price games charts, will be releasing its first £2.99 budget game shortly. Does this signal a new wave of high-quality budget games from the top software houses – perhaps even for the 16-bit machines before too long? Let's hope Ocean has opened the floodgates.

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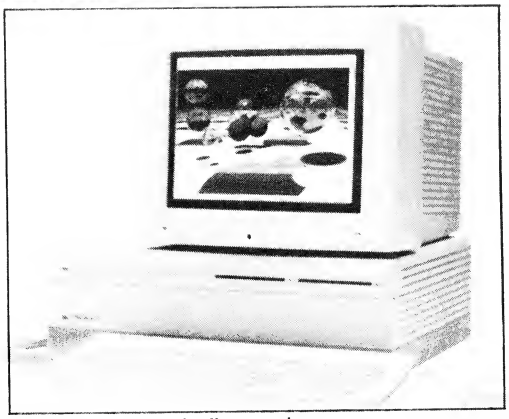
© Future Publishing Ltd 4 QUEEN ST, BATH, BA1 1EJ
TEL: 0225 446034 • FAX: 0225 446019
Printed by Redwood Web Offset, Trowbridge, Wilts

'We can win' say Apple contestors

The future of copying the 'look and feel' of software still hangs in the balance as the software industry waits on the verdict of the Apple versus Microsoft and Hewlett-Packard case.

The latter two firms both claim that they have taken a step toward beating down Apple's claim that the user friendly operating system of its machines was ripped off. Both companies produced PC programs emulating the Apple Mac's graphical user interface.

As reported in last week's *Express*, a federal judge has dismissed Microsoft's claim that it could use Windows after a licensing agreement in 1985. However, Microsoft lawyers want to prove that elements in that licensing agreement were used in later versions of Windows, thus nullifying any rip off claims.



• MacLawsuit: Interface rip off contested

Both Microsoft and Hewlett-Packard are confident they will prove that Apple copyrights have not been infringed. The court will decide whether a broad-based idea such as Apple's can or cannot be emulated.

The outcome will not only cover all future software developments but probably innovative achievements of all kinds.

OCEAN HITS FOR POCKET PRICES

After months of speculation it is almost certain that Ocean will be launching a budget label called Hit Squad.

Although at the time of going to press details had not been finalised, it would appear that the label will be in operation within the next six weeks.

Initially, Ocean will launch three games, one of which is almost certain to be *Rambo*.

Hit Squad games will cost £2.99. Ocean insiders say there are still two schools of thought within the company about a budget label. Some feel that the full-price games are doing so well that energies need not be spent on cheap games.

However, games players will welcome such a move, given Ocean's impressive back catalogue of hits. Also, the Manchester firm cannot help but notice the success of US Gold's budget label Kixx.

Whilst *Rambo* cannot feasibly be described as Ocean's best effort to date the firm still boasts a healthy line-up of hits which could be re-released at budget prices.

Play test your next game – on video

A home video cassette is to be launched this month showing off action snippets of the latest in games entertainment.

Gamesters will be able to buy the tape for £6.49 from normal software shops. It will feature animation from some 25 games and will last around three quarters of an hour.

Hot Shot Entertainments Action Screenplay will be updated every two months. Hot Shot feels that regular games players want to be in touch with what's available and want to see the games as they are rather than as ads depict them.

"When you're spending £10 for an 8-bit game and £20 for a 16-bit game you want to see what it's all about. The video will show you the game as it is," said boss Jon Beales.

Beales added: "Software houses are spending a lot of money on licenses and they want the games to be good. They want to be able to show how good they are."

• Making movies: Beales brings games onto video

Career opportunities

Skilled computer professionals in the North may soon be able to work in their chosen profession without having to move South.

The National Economic Development Council has set up a scheme "to bridge the skills gap". Separate groups of computers specialists and trainees will be situated in Leeds, Doncaster, Birmingham and Leeds. These will all be linked by computer to a central office in London. Data will then be sent on to contracting companies around the country.

The objective is to bring training and jobs to areas of high unemployment whilst also helping companies in the South which are finding it difficult recruiting skilled computer operators. The NEDC hopes to raise £500,000 for the Frontline scheme.

NINTENDO IS COMING

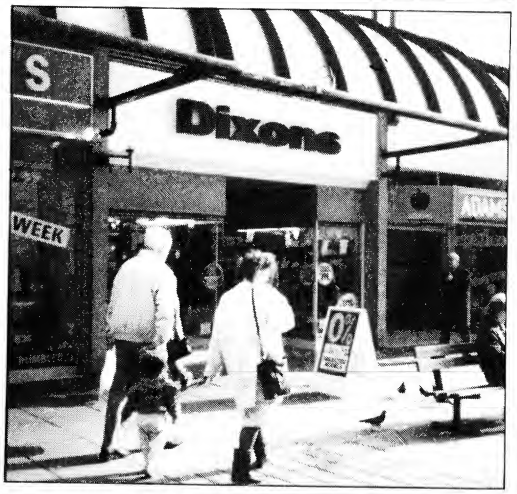
The Nintendo games console last week got its biggest boost yet as far as the UK is concerned – potential buyers will now be able to pick the machine up in Dixons.

Nintendo must be eyeing UK gamesters with a view to cleaning up. The console already completely dominates America. Nintendo has been here in some form for three years, although its efforts thus far have been somewhat lacklustre.

A deal with Dixons represents a chance to push the machine into the mainstream. Computer manufacturers cannot ask for a better chance to get a machine firmly into the public eye (and from there into their homes).

At the moment there are 36 Nintendo games available in the UK. Plans are afoot to ship more over with *Gradius* top of the list. "It's true that this is the biggest thing to happen for the Nintendo here, although it is already in Boots," said UK boss George Lucardie. "Dixons have taken it on because of the quality of the hardware. We have a less than half per cent default rate for instance."

Dixons, always pragmatic, said it took the console because "we think it will sell".

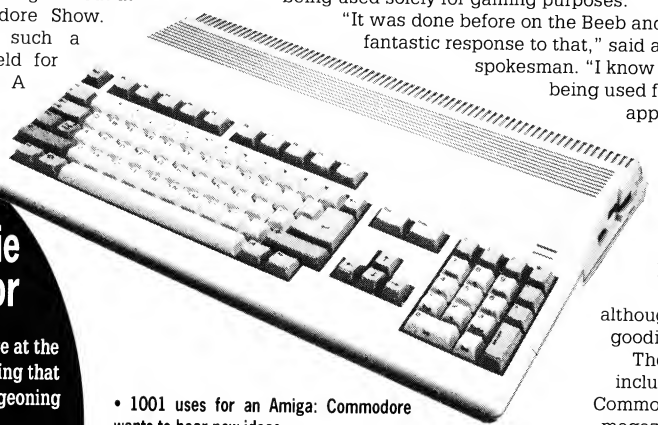


• Ahead in the game: Dixons boost for Nintendo console

Wanted: Innovative Amiga owners

If you're an Amiga owner, Commodore want you to think up the most innovative use of your machine.

It's asking for as many people as possible to send in their ideas, with prizes to be given out at the forthcoming Commodore Show. This is the first time such a competition has been held for the multi-faceted Amiga. A similar scheme was held for the BBC some years ago with considerable success.



• 1001 uses for an Amiga: Commodore wants to hear new ideas

Commodore feels that the Amiga's uses need to be exploited as much as possible. The firm has long shied away from suggestions that the machine is all too often being used solely for gaming purposes.

"It was done before on the Beeb and there was a fantastic response to that," said a Commodore spokesman. "I know the Amiga is being used for all sorts of applications. We want to hear about them."

The nature of the prizes hasn't as yet been sorted, although hardware goodies are likely. The judges will include editors of Commodore-related magazines such as *ST/Amiga Format* and *Commodore Computing International* as well as *Express*. All will be revealed at the Commodore Show at the London Novotel from June 2nd to the 4th.

If you have any bright ideas you want submitted, send them into *Express* at the usual address.

Eureka! the first Archie games creator

Games creators are all the rage at the moment, so it's hardly surprising that one has popped up for the burgeoning Archimedes.

The first games creator comes from Minerva and is part of an adventure/maze game called *Ivix the Viking*. It should arrive within the month at somewhere around £20. Minerva has a line up of some seven games for the Archie. More on 0392 37756.

Food for thought

Ever wondered what to do with all the leftovers in the larder? PC owners can lick their lips at the promise of a solution. Software Circus is offering a program which can receive a list of foods and ingredients and turn them into a menu of delectable dishes. It adjusts quantities to the number of guests and gives cooking instructions. All you have to do is key in the ingredients (and cook the grub). Called Bon Appetit ,it will also print out recipes, tips and shopping lists. The domestic wonder costs £39.95.

This is the motor which should be transported to your computer over the next few months.

Artronic has licensed the car racing team Spice Engineering for a new driving simulation. The Spice team are pretty hot stuff when it comes to lightweight C2 racing, having dominated the scene for the past four years.

This year the team is entering itself in the more mainstream C1 division against the likes of Jaguar and Porsche. ST and Amiga versions should be pulling up by the end of May.

TOP 20 Full Price GAMES

1	**Robocop** OCEAN *Spectrum, C64, CPC, ST, Amiga*	1
2	**Operation Wolf** OCEAN *Spectrum, C64, CPC, ST, Amiga*	6
3	**Dragon Ninja** OCEAN *Spectrum, C64, CPC*	2
4	**Middle Earth** MELBOURNE HOUSE *Spec, C64, CPC, ST, Amiga, PC*	16
5	**Afterburner** ACTIVISION *Spectrum, C64, CPC, ST, Amiga*	11
6	**WEC Le Mans** IMAGINE *Spectrum, C64, CPC, ST, Amiga*	3
7	**Emlyn Hughes** AUDIOGENIC *Spectrum, C64*	4
8	**In Crowd** OCEAN *Spec, C64, CPC*	5
9	**Thunder Blade** US GOLD *Spectrum, C64, CPC, ST, Amiga*	13
10	**Denaris** US GOLD *C64, Amiga*	12
11	**Double Dragon** MELBOURNE HOUSE *Spectrum, C64, ST, Amiga, PC*	10
12	**Falcon** MIRRORSOFT *ST, Amiga, PC*	8
13	**Football Manager 2** ADDICTIVE *Spectrum, C64, CPC, ST, Amiga, PC*	RE
14	**Fun School 2** DATABASE/MANDARIN *Spectrum, C64, CPC, BBC*	7
15	**Giants** US GOLD *Spec, C64, CPC*	15
16	**Lombard RAC** DATABASE/MANDARIN *ST, Amiga, PC*	RE
17	**Pacland** GRANDSLAM *Spectrum, C64, CPC, ST, Amiga*	9
18	**Batman** OCEAN *Spectrum, C64, CPC, ST, Amiga*	10
19	**Gary Lineker** GREMLIN *Spectrum, C64, CPC*	RE
20	**Galdregon's Domain** PANDORA *ST, Amiga*	RE

TOP TEN Budget GAMES

1	**Treasure Island** CODE MASTERS *Spec, CPC*	2
2	**Gun Boat** MASTERTRONIC *Spec, C64, CPC*	NE
3	**Joe Blade 2** PLAYERS *Spectrum, C64, CPC, BBC, Electron, C16*	5
4	**Ghostbusters** MASTERTRONIC *Spectrum, C64, CPC, Atari 8-bit*	9
5	**World Games** KIXX *Spectrum, C64, CPC, MSX*	3
6	**Spy Hunter** KIXX *Spectrum, C64, CPC*	NE
7	**Super Cycle** KIXX *Spectrum, C64, CPC*	RE
8	**Who Dares Wins 2** ALTERNATIVE *Spectrum, C64, CPC, BBC, C16, Atari 8-bit, MSX*	RE
9	**Footballer of the Year** KIXX *Spectrum, C64, CPC, BBC, C16, Atari 8-bit, MSX*	RE
10	**Commando** ENCORE *Spectrum, C64, CPC, BBC, Electron, C16*	11

RE re-entry • NE new entry • Last week's positions
Compiled by Gallup

The charts shown are based on the Open Market, that is retailers who stock a broad range of products. All charts shown are copyright of Gallup.

DISASTER STRIKES FT

If you're one of those people you subscribe to the theory that computers always decide to crash at the worst possible moment, spare a thought for the poor journalists on the *Financial Times*.

Just as news was pouring in of Nigel Lawson's recent budget the *FT*'s super expensive computer system decided to blackout. The assembled hacks and hackettes could only stare at blank screens for nearly two hours.

FT supremos were left pondering the fact that they couldn't get the most important issue of the UK financial year onto the streets.

They decided to draft in a small team of specialists situated a mere 6,000 miles away in Sacramento, California. The team, called SII, tapped into the *FT* network and were appalled to find 300 articles jamming up the Tandem system – all of which should have been saved onto disks.

The *FT* pleaded with SII to save the day even though the team had never come across such a problem. "This is like carrying out radical brain surgery," team leader Eric Gottfredson is reported to have warned. The danger was that all the day's work would be lost.

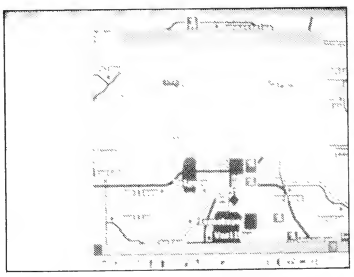
Fortunately, Gottfredson's cure worked perfectly restoring all the data within minutes. However, the cause of the *FT* crash has still not been discovered.

War games up from down under

War games are big news down under. Now you can have a taste of the latest in battle strategy from Australia.

Mindscape in the UK is to start shipping over titles from the acclaimed Canberra based publisher Panther. The firm has done some work for the Australian military and initial reviews of its stuff have been complimentary.

First up will be a World War II title based on the Eastern front called *Fire Brigade*. That should arrive on the ST, Amiga, PC and Mac later this month starting at £29.99.



• **From the wizards of Oz: Australian strategy game to hit UK**

However, Mindscape reckons it will only be doing about three titles a year. "That crowd like to take their time over games," said the firm's Geoffrey Heath.

Now virus writer turns virus hunter

The man who claims to have written the first computer virus has switched sides – and authored a virus busting package.

Dr Fred Cohen says he first wrote the first virus in 1983 under laboratory conditions. Now he's come up with *Advanced System Protection* (ASP). It costs £125 for a single user (or £30,000 for a thousand user licence if you so wish) and sports a plethora of gadgets to track down nasty viruses.

The PC program boasts a set of tools including boot block, interrupt table, system files, program and data files.

When asked why he developed the system Cohen grandly replied: "To protect the world from any research I do." ASP is available from PC Security on 0628 890390.

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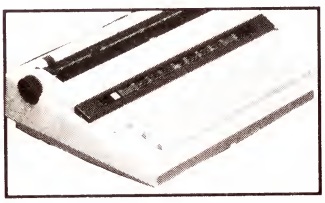

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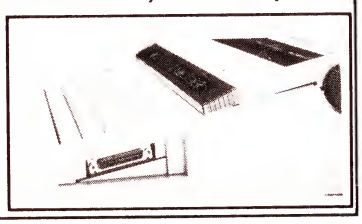

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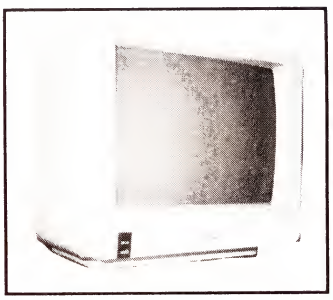

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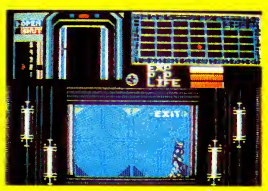
They came from a Dimensional plane clear across the galaxy, wreaking havoc and chaos from star system to star system. With an evil that smothers all resistance with fear and terror, the horrid creatures of the Bydo Empire are now knocking on, Earth's front door.

Is by far the best blast available on the Sega, so it goes without saying that no shoot 'em up fan should be without it! C+VG, March 1989



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Horizontally scrolling arcade adventure, action packed! C+VG, March 1989

Y's

You are Aron Christian, a swordsman washed ashore by the might and fury of a hurricane. You were found half dead by a kind and humble fisherman and he restored you to health. The fishing village sat at the edge of the great plain. Rising in the distance was a small mountain range with an ominous tower at its peak. 'That is the Tower of the Doomed,' the fisherman told you as they made the sign of the evil eye. 'It is the place where the troubles of our land began.' As you watched the tower, you knew that your destiny waited there.

The whole thing looks incredible – the best I've seen on the Sega. Y's offers depth and playability and will keep you engrossed for weeks. It's a must! C+VG, March 1989

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PROGRAMMED RESPONSE

It seems that you are the first serious, no-games orientated, multi-format magazine, so, how about a programming series for serious users? C would be a good choice, or maybe BASIC, as its variants are not too bad.
William Hadden, Co. Down, N Ireland

● ***I must admit to being very dubious about programming series. There's the problem of language differences between machines, and one or two pages a week is a bit limiting – you can quickly get bogged down in pages of detail. I rather think programming is something better tackled in books, of which there are millions about, and plenty specific to your language and machine.***

IN PRAISE OF AMSTRAD

Some sections of the press dealing with computers, including yourselves, seem to refer disparagingly to Amstrad, its boss and its computers at every opportunity.

I think you are doing a grave disservice to prospective PC buyers by intimating that Amstrads are not a good buy. Just give the facts and leave them to make up their own minds.

Amstrad is a very successful British company who brought a new dimension to home computing and made work for a lot of extra journalists. It doesn't help to knock them all the time. In your own columns last week you report that Amstrad have by far the largest share of the market in the UK, forcing IBM to bring prices down. 'Nuff said; I'm sure that Amstrad have a trick or two up their sleeves yet.

Soon I hope to buy a PC to complement my PCW and it will probably be an Amstrad PC1640. I was rather taken with the Fred Nerk Turbo Special, but I don't think Fred will be around as long as Amstrad. And by the way, tell Neil to stop knocking in nails with his computer keyboard, or the Tandons won't last longer either.
Ron King, Bedford

● ***Come on, it's not as simple as that. When someone asks you the points for and against various PCs, reliability and workmanship have to come into it. It is a relevant and important fact to mention that many people are not over-enthusiastic about, for example, Amstrad PC keyboards.***

This is not to say that Amstrads are unreliable or badly put together or anything – in fact, if you look again at the letter and my reply, I actually disassociated myself with the correspondent's experiences with his Amstrads, not just because I don't want to be sued, but also because the Amstrad PC and PCW I've bought have given me no trouble whatever.

Maybe this particular reader had just been unlucky, but again, different people are bound to have different views on a machine that is built to a price.

I think it would be a bit of an exaggeration to say that Amstrad has caused IBM to lower its prices; the PC market generally has seen prices falling and specifications rising.

• Amstrads cheap and nasty? Not at all, says Ron King (In praise of Amstrad)

In *Express* 19, a letter from Neil Barnes stated that "Amstrad PCs are rubbish, have bits missing, break down a lot and corrupt data". You apparently agreed with this, saying that "Many people feel that they are clanky, and built down to a price rather than up to a specification".

I am a design engineer of forty years' experience and for some time was a plastics mould designer in a major plastics company. I am fairly new to computing and just over two years ago I bought a PCW8256 which I bought as a word processor, but use mainly now for programming as a hobby.

I have found the machine to be very sound mechanically, with good quality mouldings, and it has been reliable. When I upgraded the memory I had a good look inside (another of my hobbies is electronics) and found good design and workmanship throughout.

On reading the comments noted above I made a visit to my local Dixons to compare the Amstrad PCs with IBM, Olivetti, Atari and several good quality typewriters. Quite frankly I could see no difference in quality in the mouldings or keyboards, nor in 'feel'.

EXPRESS MAIL

Dear Reader

More pages packed with another selection from our postbag and Rob Ainsley's replies. Have you got something to say? Make your voice heard in computing's liveliest letters page! Send your contributions to:

Express Mail, 4 Queen Street, Bath, Avon BA1 1EJ

PS. Sorry, we just don't have the time to give personal replies, whether you include an SAE or not. We're too busy putting Express together!

FALCON GOOD

Could you tell me if there is a new version of *Falcon* out for my ST? It's just that some other (and much inferior) computer mags which have reviewed the game show via their screen shots that their version has a different title page to my version 1.0.

Also, do you know anything about the ST+? Rumours have been flying around for ages about this new machine but Atari have said nothing. Well, not to me anyway.

Finally, how do you subscribe to your brill mag? Keep up the good work!
Chris Howell, Coventry, West Midlands

● ***The ST Plus, we reckon, will be launched in September. People have been talking about it having a 68030 chip, being five times faster than the current ST, TOS-compatible, one drive, having 2Mb RAM and will be about £999. We were told by Atari it would be for "the real guy who's buying power". See this week's*** Club ST ***for some up-to-the-minute info.***

As for Falcon, ***there are no new versions out (unless you count newer bug-fixed*** Falcons ***as 'new versions') and the difference in screens is probably down to the fact that the versions reviewed were pre-production and hadn't had all the graphics fully finished.***

Subscription to Express ***costs £24.95 for 56 issues, £12.50 for 26, from Express Subscriptions, The Old Barn, Somerton, Somerset TA11 7PY.***

POKES IN THE EYE

Could you please answer a few questions for me, about these laws they are trying

BY THE BOOK

A tip to anyone going to The Alternative Micro Show, which is being held on April 1st at the New Horticultural Hall. Whilst in London, they should consider a trip to Charing Cross Road, to visit Foyle's Book Shop. There are plenty of books there in the Computer Department for our information-starved owners of the less popular micros.

I have seen books on the Dragon, the Lynx, the Einstein, Electron, the Oric, Texas TR90/4a, QL, Atari 8 bit, MSX, and would you believe, I even managed to procure a book for my poor old Aquarius – do you remember them? I didn't manage to spot any books on the Jupiter Ace, Enterprise or Memotech, but they may well be there amongst the hundreds of books.

Owners may be interested to know that Interface Publications are selling off their books on the obscure micros very cheaply (from 50p to £1), so they may well be worth writing to. I actually own an Amiga amongst my computers, but there's nothing like trying to obtain information and software for the obscure computers. It's a challenge, which is enjoyable and usually far cheaper than maintaining the mainstay of my hobby, the Amiga.

Anyway, I hope that this information is of some help to fellow owners of 'odd and old' micros. See you all at the show!
T A Blay, Romford, Essex

MYSTERY PRIZE INNER

● ***Thanks for the info – and no, all you 16-bit owners, the Alternative Micro Show isn't an April fool! We'll be reporting on it in*** Express ***for those of you that can't go.***

And just to show that we do recognise there are people out there in the world who enjoy using machines other than the PC, ST, Amiga et alia, we're sending you the mystery prize for this week's best letter.

Sorry, we don't have any software for the Aquarius – will you settle for an Amiga program instead?

DISTRUST OF COMMIES

Why is it that Commodore (in the UK at least) always manages to come across as hopeless at selling its Amigas? The announcement (*Express* 19) of its new bundled package looks extremely weak as against Atari's (News, *Express* 18).

I cannot imagine many people wanting to pay £100 over the odds just to get £160 of air miles vouchers when there are several suppliers offering Amiga 500s with 9 or 10 games (or more), plus a paint package, modulator, etc, for the normal price of £399, or less.

Also, if Commodore wants to sell to 'yuppies', most of these will want a dedicated monitor, and not a TV modulator. Just doesn't make any sense (and not for the first time). Now if Commodore put together a bundle including word processor, music and paint package, spreadsheet and database, a half meg memory upgrade, and at least 5 good games – all for £500 or less – maybe then people would take it seriously.

It is about time Commodore got its act together otherwise Atari is going to run it into the ground, which would be a shame seeing that Amigas appear to be better machines (although with Super STs (TTs) and ATWs coming, etc, for how long one wonders?)

Why does the Amiga have such a dodgy reputation for crashing? Is it due to a hardware fault, or is it badly implemented software?

Vee Van Dam, Glastonbury, Somerset

I finally got my Amiga and have now found out why people moaned at *Workbench 1.2*. It's awful. It would be awfully nice of Commodore if they offered free-ish upgrades to 1.3 (I'd gladly send my disk back and pay for postage and packing). I think this idea would sell more Amigas than adding £100 to the price and offering 'free' plane tickets with it! If they are going to give vouchers away why not software vouchers – surely even yuppies would find that more useful. Adding £100 is a bad move especially as the ST is coming down. I have now used both machines and can say that a price increase is not warranted; Atari will clean up.

Beware all you Amiga owners with 2.5 volt power packs. Your time is limited. My mate had his Amiga for two hours before it packed in, he took it back and went through four power packs before finding one that worked (a 5 volt one). At this point a free flight to AIDS-riddled Amsterdam would not have cheered him up!

Give the Amiga a free MIDI interface and improved OPERATING SYSTEM then Commodore could be in with a chance.

My favourite games so far are *Hybris* and *Tetris* but *Hybris* costs £25, and sometimes all your smart bombs go off at the same time, which is mildly annoying. (I had messed about with the options).

Sorry about the anagram of *New Computer Express* I sent you that didn't work. It should have been 'super wops excrement'. I hope you're not offended!

Neil Barnes, Birmingham, West Midlands

● ***We've had a lot of letters commenting on the various bundles offered by Commodore and Atari, and everyone comes to roughly the same conclusion as the correspondents above.***

The Amiga's reputation for crashing rather a lot probably comes from the fact that it crashes rather a lot. This is down to the operating system – the software – rather than the hardware. Quite a surprise to anyone coming from a machine run on MS-DOS or CP/M – systems which are admittedly much simpler, but which hardly, if ever, fall down.

to bring in to stop hacking and cracking.

1 Will it cover people who break protections to find pokes for infinite lives etc. Including companies like Romantic Robot?

2 Will magazines be able to still print pokes?

My point of view on this is that it will force more people to learn how to hack, for like myself they are happy to wait for pokes to be printed.

I've got a CPC6128 and want it for games at the moment, but will soon branch out into serious software, like word processors and printers (I know printers are hardware, but they go together). I don't want to spend years learning how to hack and hours hacking a game.

If pokes are stopped from being printed, games sales will suffer eventually, forcing price rises forcing games sale to suffer even more.

I think software houses should issue games already poked on the reverse (and let's face it – wasted) side of disks and tapes. That way their protection systems can stop most copying, games sales will grow and new computer users would have no real need to learn to hack.

I know it will never stop hacking and cracking but it must surely reduce their numbers to the few dangerous idiots the law needs to cover.

Carl E Surry, Barnet, Herts

● ***The legalities of software copying are very, very involved and there's no simple answer to the points you raise. The good news is that pokes are here to stay; whatever technical points might be made about the alteration of copyright material (i.e. the game's code) software houses are not going to get after magazines for printing pokes, or games players for discovering them and telling people about them – provided of course it's all harmless fun to spice up a game, and not a way of deprotecting a game to copy it.***

As for the deprotecting devices you mention, this is dodgier ground. We may well be seeing legislation introduced in the future which makes manufacture and possession of these grounds for legal action, and the current attitude of the computer industry is certainly hardening against piracy.

YOU DIG

You may be interested to hear of a recent archaeological find. During a dig, a scroll was found, which when translated was entitled 'New Abacus Express'. This covered many aspects of abacus ownership, and was a very good read. It was particularly memorable for its letters section. Letters poured in over such subjects as why the Amigacus was better than the Ataracus, why the Ataracus was better than the Amigacus. Why was there no section devoted to other, much less popular abaci, eg the Psiocus, and letters about letters about why one abacus was/was not better than another. Fortunately, being civilised peoples, we have left such things behind in the past.

Matthew Wood, Croydon, Surrey

● ***Hmm. Funny, I always thought Amiga, Atari, Psion and so on were Latin and Greek anyway. (Amiga, Amigam, Amigae, Amigae, Amiga – first declension feminine; Atari, Ataros, Atarorum, Ataris, Ataris – second declension masculine plural; Psion, Psion, Psiou, Psio – neuter).***

RAMM BAM

May I inform your readers that 'Ramm', the independent user group for the Ram Music Machine, is now being run by myself.

The club is expanding its scope to cover other hardware such as the Spectrum, XR1, Cheetah interfaces for the Spectrum and so on, as well as continuing support for the Music Machine. We will be publishing articles on all aspects of music on the Spectrum – MIDI, MIDI programming, sampling etc.

The club particularly aims to encourage people taking their first steps into music as well as catering for the more knowledgeable. Information about the club can be had from 05242 62258 in the evenings. I'll also be at the Northern Sinclair Show at Leyland.

Sean Sanderson, Lancaster

CLASSIFIED INFORMATION

Have you ever thought of starting up a classified section like most magazines such as *ACE*? Then people can sell their computers and things like that and so on.

Dean Barrett, Bargoed, Wales

● ***Aha! A timely question. Turn to the inside back page and, for free, you can advertise your computers, things like that, and so on.***

BLOT ON THE COPYBOOK

I have been reading *Express* now for the past eight weeks or so and will continue to do so providing the standard is kept high. (That wasn't a threat!)

I don't have a computer at present (I got rid of my Speccy a few years ago) but I intend to buy an Amiga as soon as I find some cash. I'm going to be rich and famous once I get my paws on the Steinberg *PRO 24* – just you watch me!

Seriously though, I have a query. In issue 18 under the 'Cut to the Quick...' article the enclosed picture caught my eye. It seems to be identical to the cover of an LP by the German group Software (they make some great music with computers). I would be obliged if you could enlighten me.

Steven Porter, Craigavon, N Ireland

● ***It's quite possible that they used the Mandelbrot demo from 'QuickBasic' on the cover, and they certainly look very similar.***

Rorschach devised a system to gauge people's personality from the shapes they 'saw' in patterns like this. Most people used to just say 'ink blots'. Now they just say 'Mandelbrot sets'.

SOMETHING WONDERFUL

Bless you gentlemen for your very timely article which appeared in *Express* 19.

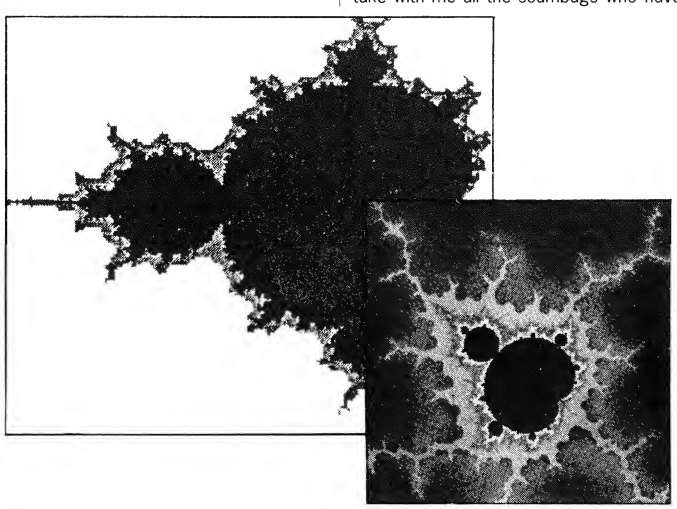
Until yesterday I had never experienced the horror of these viruses as I had, quite wrongly, assumed that such things were not man made but were something that had crept into systems by some computing fluke.

I am a young chap of nearly seventy summers and winters with a history of a major by-pass behind me. Otherwise I'm fit. But when I saw on my recently acquired Amiga the message 'Something wonderful has happened' etc. it nearly caused me to have a second heart attack. I immediately thought that my seven hundred quid's worth of computer and monitor were disease-ridden and that I would be better off with my poor old Amstrad and Commodore which have been relegated to dusty suitcases...

I contacted a friend who reassured me that all was not lost and explained what could be done. Also, today I read your article on the subject and the sun started to shine again.

This opportunity must be taken to thank you very fervently for your excellent article which has saved my sanity and has prevented my shuffling off this mortal coil before I am ready to go.

In conclusion I must say that when it is time to shuffle off, I would dearly like to take with me all the scumbags who have



• Amazing likeness: (Left) Album cover for German group 'Software', (Right) Mandelbrot set in QuickBasic (Blot on the copybook)

SNIPPETS

MACHINE SPECIFIC

...I can understand why people argue about the different machines. Naturally, the machine you've got is the best (even if you know it isn't) because it's yours – and it would be silly if you had a machine that you didn't like or were not satisfied with.
P Harrison, Leicester, Leics

COFFIN FIT

The final nail in the coffin of the Amiga for me as an engineer is the amount of Amigas that seem to breaking under the slightest strain...
Andy James, Plymouth

SODAN DEATH

I was surprised to see the *Sword of Sodan* cheat in Amiga Blit (Express 18) which was credited to me – first because I didn't write it, and second because it doesn't work!...
Basil Pigg, Devon

FINAL DEMAND

My advice to people who are frustrated with waiting awful lengths of time for games is to phone up and demand your money back. Then you should receive your games within a few days...
G Jones, Boldmere, Birmingham

STRIKE AGAINST REDUNDANCY

...My glowing praise of *Express* has to be qualified, however, by mentioning that many of the 'debates' featured on the Mail pages attempt to perpetuate redundant arguments...
Jim Black, Muckamore, Antrim, Republic of Ireland

perpetrated such a lousy, filthy and malignant trick on innocent people.
Robert Lamb, Cottingham, East Yorkshire

● ***Thanks very much, gosh it was nothing, all in a day's work etc. Incidentally, erudite and precise research shows that the chances of a working computer virus being generated by chance (through faulty copying of a disk, for example) are so small you would only expect one to occur every 10^{283} years – that's a one followed by 283 zeroes.***

Two things I find very encouraging about your letter. First is that, despite the reputation computing has of being a young people's thing, you're buying and happily using up-to-the-minute technology (I always think it's a cop-out to say 'oh, I'm too old to start anything new now'). Second is the fact that you still place Cottingham firmly in East Yorkshire (as I do, being Hull born and bred) despite this 'North Humberside' nonsense that they tried to foist on us in 1974, exactly fifteen years ago, on April Fool's Day. I'm all for new technology and progress, but some things remain sacrosanct!

ENGINE ROM

Please tell me where I will be able to obtain more information on the PC Engine because I haven't seen it advertised much, and this is a shame because they are losing out on sales.

I think this will be a hit machine, bigger than the ST, Sega, Amiga etc. The PC Engine is reliable, fast and has brilliant graphics. I also hope they will make this machine compatible with joysticks because the games are ruined without them.
Blain Brown, Sutton Coldfield

● ***Though widely available in Japan (for well under £100) few PC Engines have been imported into the UK. Micro Media on 0584 75604 will sell you one for £200 (£225 to use with a TV set, or £400 with a monitor). As far as we know the PC Engine is not planned to work with a joystick.***

• You can pick up NEC's PC Engine for well under half the UK price in Japan. Unfortunately the plane fare is £580 return (Engine ROM)

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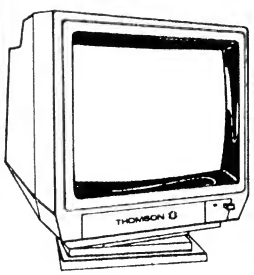

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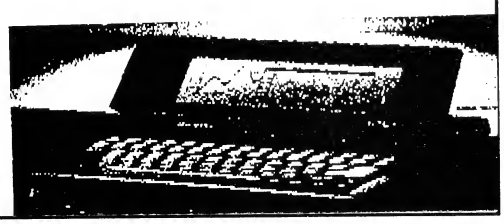

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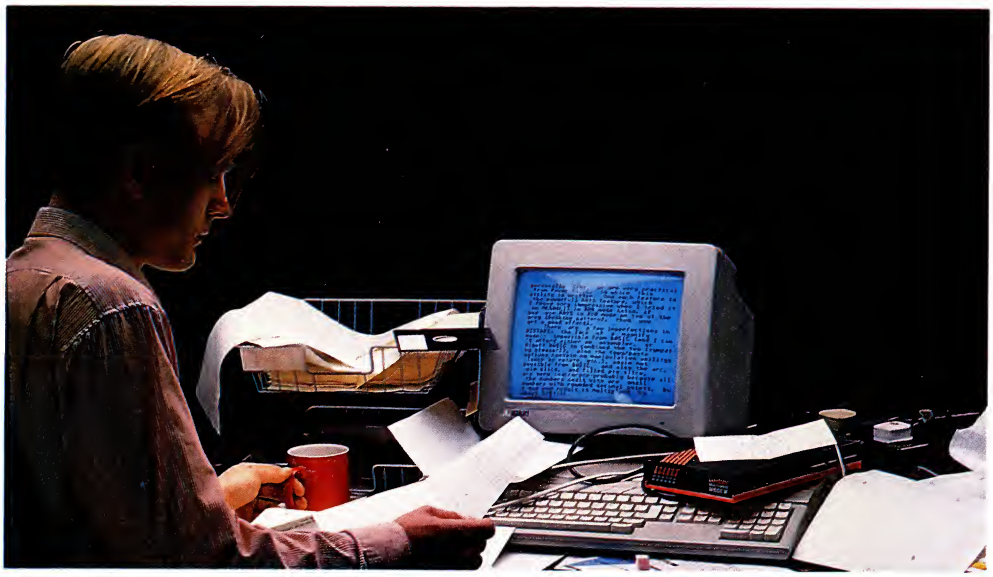
Access

Comms to us all



• Both comms users, both accessing the same service. But guess which one one ends up with a phone bill over ten times the other's. The World of Communications offers a wealth of services and facilities – but you have to know how to make the best of it all...

The urge to communicate is a basic human instinct. Telephone users, Radio Hams, CBers, chat liners – someone, somewhere is trying to contact others to exchange information, or just for fun. And with a micro, you can communicate with any other computer in the world through the phone lines. A huge range of services, information and leisure awaits you.

But how much does it cost? How can you avoid those legendary huge phone bills that comms users always seem to have?

Jerry Glenwright tells you what it's all about – and shows you how to be a Smart Comms User...

Do you visit the theatre? Use airlines, buy flowers, play computer games? With your computer and a modem, you can reserve your theatre seats in advance and pay for the tickets using an electronic transfer of funds from your bank account to the theatre. Likewise, airline tickets. If you want to send flowers to someone, contact with one of the larger florists will allow you to do this from your terminal screen.

Games? On-line, interactive games are the latest (and possibly the most enjoyable) form of computer 'play'. You can battle your way through jungles, caves, houses – anything – in conflict with other on-line users who are far more responsive than anything computer generated.

If you're a wholesaler about to supply a large quantity of products to a company which is new to you, and you are unsure of their 'credentials', you can request a thorough report of the company's status. This will include a list of registered assets and share-holders, and a summary of their financial standing.

Lonely heart? Just type your details into one of the many on-line dating services, sit back, and wait for the flood of electronic sweethearts aching to meet you!

The latest news, share prices and stock movements are all available and updated constantly. You can send a telex or fax, contact ships at sea, download software, cross-question prominent figures or simply make contact with other computer users to discuss life, the Universe and everything.

EVERYTHING COMMS TO HIM WHO HAS A MODEM

So what is comms? How can two computers of quite different architecture and operating systems be joined together to allow the transfer of data between them? What do you need to effect this connection, and will it all be possible using your machine?

'Comms' is the term used to describe the joining together of two or more computers, (irrespective of type or model – micro, mainframe or whatever) to allow them to communicate information to each other. This is via some medium such as the PSTN or Public Switched Telephone Network – the phone lines to you and me.

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7 Write 8 PC-Base Guide 9 PC/Amstrad

• Two of the services on offer on Micronet's pages. PC Base is an on-line PC 'magazine' with literally up-to-the-minute news and reviews ; Shades is a multi-user game, or MUG, a sort of computer-controlled D&D game

In an ideal world, it would be possible to plug your computer straight into the BT wall socket and begin transmission to the service of your choice (although you appear to be doing just that with machines such as the PPC640, you are in fact transmitting via a built-in modem).

Unfortunately, when telephone transmissions began, no-one envisaged the use of the lines for anything other than voice-grade communications. Consequently, the telephone lines cannot handle digital transmissions directly from the computer. This is where the modem comes in. If you are going to attempt communication using your computer, then the modem is an indispensable piece of equipment.

'Modem' is an acronym for modulator/demodulator and is an electronic device which transmits a continuous tone into the telephone line. This tone is known as the carrier. By varying the tone an 'intelligent' signal can be sent down the telephone line. The process is known as modulation. At the receiving end, the modem interprets the signal by separating the information from the carrier tone – demodulation.

Comms software on your computer translates the information to be sent into a digital signal which is then transferred from the computer to the modem via a serial cable. The serial cable is one in which data is transmitted one bit after another (imagine a queue, with each person in the queue progressing in single file) until all the data has been sent.

As data is received by the modem from the computer, so it is sent down the telephone line to the receiving modem, there to be translated and passed to the host computer. This is why computers of entirely different architecture can 'talk' to each other.

The signals transmitted and received by the modems are common to all machines, and it is the communications software which translates these common signals into information specific to that computer.

What you need

Presupposing you have a telephone line with a modern jack-plug style socket, the next most obvious requirement is a modem.

You must decide just what it is that you want to do. If your only activity on-line will be dialling up the occasional bulletin board, then a 300 baud acoustic modem will probably suffice. Anything more adventurous, and you will need a direct-connect modem with speeds in the range 300-2400 baud, preferably with auto-answer and auto-dial. This will allow you to contact all the major services as well as hobbyist BBSs. You will even be able to run your own board if you want to!

Software? A myriad of comms packages exist for all the well-known machines, so, as with modems, work out your requirements and scan the mail order ads in the computer magazines. If, after buying your modem, your bank-balance is in a sorry state, then try the public domain. Some of the best comms software around is available free, especially for the Atari ST and the PC.

MODEM LOVE

Modems come in all shapes, sizes and configurations. They can be automatic or manual, acoustic or direct-connect, and before choosing a modem, you must decide what you want it to do.

The first modems available to the home market were the acoustic couplers. These had a solid oblong body, with a rubber cup at each end. The handset of the telephone was plugged into the rubber cups, and the modem generated an audible 'whistle', which was heard by the telephone and transmitted down the line. Unfortunately, the telephone could also hear any other noises that happened to be in range of the handset, and transmissions were frequently corrupted.

Nowadays, with the introduction of the BT wall socket, acoustic modems have been superseded by widely available direct-connect machines. This type of modem has a cable with a plug at one end, which can be inserted straight into the wall socket. If your modem has an automatic dialling facility, you don't even need to have a telephone. The signal is transmitted directly into the telephone line, cutting out the possibility of extraneous noise being overheard by a telephone and corrupting the transmission.

Some of the first direct-connect modems were of the manual variety. This meant that before communications could begin you had to select, via a controlling knob on the front panel, the speed and configuration of the modem. If you wanted to communicate with an information service at 1200 Baud, then you had to 'dial' 1200 originate, dial the telephone number, replace the telephone handset once the modem had made contact and then start your communication – there was obviously room for improvement!

The more modern automatic direct-connect modems can offer facilities such as auto-answer and auto-dial. An auto-dial modem means that you can type the number of the service you wish to contact into the communications software that you are running, and the modem will automatically dial the number for you. No messing around with telephones! Using an auto-dial modem, the process of contact can be speeded up, thereby saving you time. In computer communications, time really does mean money. Phone calls are not cheap, so the quicker the procedure is, the less money you are going to spend.

An auto-answer modem is one which will pick up (or 'answer') the telephone line when another machine is calling yours. With an auto-answer modem, and the correct type of software, you can start your own information service (bulletin board). The computer can be left unattended, and will happily answer all calls to your service.

TAKING SPEED

Another area in which greater speed can reduce transmission times is the actual speed of the information across the telephone lines. The data can be transmitted using a range of speeds, and these are indicated by a Baud rate value. The baud rate is measured in terms of signals per second (each variation in the carrier tone), and not bits/second as some sources would have you believe. At the slower speeds these two equations are identical, but at the higher speeds, the baud rate is slower than the equivalent bits per second rate.

The most commonly used speeds for communications across the telephone system are 300, 1200, 1200/75 and 2400. As with every aspect of computing, each speed has been assigned (jargonised) names, and these are V21, V22, V23 and V22bis respectively.

V21 is the speed employed by most acoustic modems, as greater speeds lead to an unacceptable error rate in the transmitted data. Due to its popularity in early modems, V21 is still widely available on information services.

V22 and the newer V22bis appear to be the current favourite for computer communications, and are used on almost all services. Using these speeds, data transfer is fast and reliable (although V22bis can cause problems on 'noisy' lines).

V23 (known as a 'split baud rate') is peculiar to the UK, and is used almost exclusively for Viewdata (a.k.a. VideoTex) services such as Prestel. You receive the host computer at 1200

Some of the best...

Software

Mirror II: A fully-featured comms package which is bundled with the Amstrad portables but which can be bought separately for other PC compatibles. Contains interesting features such as the ability to reside in the 'background' whilst you run a DOS application, it can then be switched back into the foreground to allow you to continue with your communication. Contact: SoftKlone/Management Data Processing Ltd on 0225 604901. Prices around £83

Dial-Up Personal: Comms package aimed squarely at the home user but which is still a very usable piece of software. Contact: PMS on 021 643 7688. Around £90

GEM Comm: Not surprisingly (given the name) a GEM-based communications program which runs only on the Amstrad machines. Incorporates many of the advantages of GEM applications – and also lots of the disadvantages! If you like using GEM then maybe this is for you, otherwise don't bother. Contact: Digital Research on 0635 35304. £70 or so.

Modems

Pace Linnet: Budget priced modem with partial Hayes compatibility and a serial cable incorporated in the price. Contact 0274 488211; prices c. £163.

WS4000: A budget modem from Miracom which markets quite a range of modems and has been doing so for several years. Hayes compatible with speeds of V21 and V22. Auto-dial and auto-answer as standard. Contact 0473 233888; price c. £92

Dataphone Designer: Cheap modem with a large range of features available from the front panel as well as under software control. Reset, speaker on/off etc. Contact 0733 230240; price c. £115

Prestel and Home Banking subs and charges

You're interested in having a rummage through one of the large public information services or you'd like to slobber over the enormous amounts of cash in your bank account (you'll need the latter to execute the former) – how much is it going to cost you? Before you rush out and buy a modem, peruse the charges...

Prestel: Quarterly subscription rates vary with the type of user you are (i.e. business, private etc.) – £8 for private users and £18 for businesses. On-line charges are 7p per minute during peak times and 1p per minute between the hours of 6pm and 8am. You've got telephone bills on top of that, of course. You can contact Prestel on 01 822 1122.

Home Banking: This is being offered by a number of banks and building societies via several viewdata services. Effectively you can access the bank's computer and set up standing orders, do transfers etc. Nottingham Building Society (the first to offer home banking) charges £2 per month for the homelink subscription or free for users who keep a balance of £1,200 or more. Homelink is executed via Prestel, so you have to cope with the charges mentioned above *and* the telephone charges. Nottingham Building Society can be contacted on 0602 481444. Prestel (on the number quoted above) will be able to tell you of other banks offering similar services.

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21 Original Xtra! Music, films, TV,
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22 Money Xtra Daily guide to the
complex world of personal finance.
Prestel What's New 6
23 Hamster Prize games, quizzes
24 Treadmill Make new friends, chat
25 Shades Realtime multi-user game
26 Bazaar Monday-Friday small ads
27 Starnet Strategy game (CUG)
8 Browse 5 CUG? 9 Mnet

• XTRA is an interactive magazine on Micronet – you can add your contributions on-line

baud, and communicate back to it at 75 (!) baud – i.e. incredibly slowly. In spite of this, a relatively large proportion of private bulletin boards are adopting the 1200/75 V23 standard.

COMMS CAN BE FUN, HONESTLY

Learning comms jargon is one thing, but what can you really do with it? Perhaps the answer is another question: what do you do with your computer? Play games, home accounts, bit of word processing, maybe keep a database... Computer communications isn't going to revolutionise the average home user's hobby, but there are a lot of ways you can increase the enjoyment of your computer by allowing it to talk to the outside world. Several major public information services exist, some with large quantities of software for you to download, all with news, travel information, facilities for fax and telex and home shopping, and the ability to make contact with others with the same interests as yourself.

Micronet is one such service. It was launched on the Prestel network in March 1983 and now consists of 35,000 pages of diverse information and interactive services. The system supports most home computers and all you need to hook up is a modem operating at 1200/75 baud (V23), some viewdata communications software and a subscription. Once on-line, you are presented with a huge multi-faceted database which can be navigated with single key-presses – just hit a number and you're somewhere else. Unfortunately, the 40 column graphics are a bit simplistic too – screen updates are slow – but the range of interesting material more than makes up for this.

The on-line services can be broken down into five areas: Communications, entertainment, Information, Telesoftware/shopping and Business and Personal finance. You can send electronic mail to users of Prestel and Telecom Gold as well as to those of Micronet and link your mailbox to a radio-pager for instant access. Combine this with telex and faxing facilities for an extra fee of £1 a month, and you have world-wide communications for a fraction of the usual cost. Also useful is the teleconferencing facility – Dialtalk – which allows up to 64 users to talk to each other real-time. Chatlines, classified ads and technical helplines

Put your money where your modem is

Eric Smart and Wally Burke are both keen comms fans. Each day they are to be found logging-on to their favourite boards and downloading files. Both Eric and Wally have seen a useful-looking PD utility on their favourite bulletin board that they'd like to download – and why not? After all, it's only going to cost them price of a phone call. Read on to find out why BT is going to be a dirty word to Wally at the end of the quarter...

Time	Cost	
09.00	£0.00	Wally turns on his modem to go on-line – if only he could have waited until the cheap rate starts in the evening!
09.01	£0.10	Wally manually dials the board, (during the most expensive charge-band time) makes connection (at 300 baud), replaces his handset, and taps frantically at the Enter key of his machine until he is invited to enter his password.
09.04.21	£0.30	Wally has finally managed to get the host to accept his password at the third attempt (his typing isn't all that it could be) and is now logged-on. Now, if he can just find out where that utility is kept...
09.15	£0.95	Wally, having rummaged through 5 wrong directories and reading several text files, (at 300 baud) has managed to locate the utility.
09.19	£1.05	Wally has accepted the default XMODEM to transfer the utility (he knows nothing of protocols), is unaware of compression utilities and is 2k into a 31k file transfer
09.50	£2.75	Poor old Wally. He's downloaded the file, but can't remember the command to exit the board. In desperation, he switches off his computer. This ensures his departure from the BBS but also leaves it 'hanging' – the SysOp ain't going to be very happy about that, as it means no-one else can use the board! Also guess who didn't dump the captured file to disk before switching off the computer? At the end of the session, he has no file, no status on the board, and a 'phone charge of £2.75!

Time	Cost	
21.00	£0.00	Eric turns on his modem ready for a session on-line after a nice dinner, during cheap rate phone charge band.
21.01	£0.10	Eric's modem dials the number of the board, selects 2400 baud and waits to be connected then begins the automatic log-on procedure by transferring his password to the board.
21.01.30	£0.10	Eric is logged-on and changes to the directory where he knows the utility to be, using a single keypress. (He'd downloaded the help-files from the board during his first contact, and now knows he way around).
21.02	£0.10	Eric is in the directory containing the utility, and is about to start his download.
21.04	£0.15	Eric has selected the ZMODEM protocol for file transfer (he knows how fast it is), used a file compression utility and is 2/3 through the download.
21.05.30	£0.20	Eric, having downloaded the utility, leaves a thank-you message for the SysOp and exits the board. Total cost: 20 pence.

complete the person to person communication services.

All this and an on-line, multi-user adventure game, *Shades*. Featuring a *D&D* world of 1,000 locations, *Shades* allows up to 64 players to interact simultaneously in a bid to gain points, treasure and become wizards. It's been on-line for a couple of years now and Micronet reckons it attracts at least 4,000 hours of access per week; a popularity it wishes to exploit further by introducing a new game in the next couple of months. Also available is *Starnet*, a multi-user, interactive strategy game set in the 21st century, a selection of competitions and puzzles, and a gallery area for posting your own art and literature.

Contact with a service such as Micronet will really expand your computer horizons – and if you tire of Micronet, there are lots of others.

If you don't want to pay a monthly subscription fee, then you can make contact with one of the many BBSs (Bulletin Board Services), which are invariably free, and at their best can rival many of the public services. (The BBS is a piece of software running on a single machine, usually from someone's home and, as its name implies, is a kind of electronic notice board, allowing you to post and receive messages to and from other users of the board.) They will also have areas containing public domain software which will be available for you to download to your own machine. Help with computing problems, general advice and friendly communication are all part of the bulletin board's appeal.

TOP OF THE BILL

OK, you're convinced of the benefits and advantages to be had by connecting your computer to a modem and getting on-line. You can't wait to download all the free software – but is it free? What is it all going to cost? Will you be the next candidate for a tabloid shock-horror story about enormous 'phone bills?

Apart from the initial outlay for a modem and comms software, the major cost of connecting your machine to the outside world will be the actual charges for your telephone calls. These, unfortunately, are dictated by BT, but there are ways of reducing your charges to a minimum. The first thing to do is to restrict your on-line periods to cheap-rate times (between 18.00 and 08.00 and all day Saturday and Sunday).

Next, always choose the fastest communication speed offered by the board that can be handled by your modem – although if you're downloading files, higher speeds are accompanied by a higher error and re-transmission rate which can defeat the object.

During your first call to a new board, download any available help-files and study these thoroughly. Speed up your access times to a board by being able to find your way around quickly and easily, and you will make a significant reduction in your telephone bills.

If you want to leave a message to other users of a board, compose the message before going on-line. Don't sit with a blank screen and a blank mind whilst the phone bill is running up.

Use one of the many file compression utilities before up-loading or down-loading files from a board. These are small programs which compact text and program files by 50% or more. The compression utilities themselves are usually available from bulletin boards and will greatly reduce file transfer times.

If your comms software allows you to set up a RAM disk, then do so. Capture text files in the RAM disk and read them off-line. Try reading a 10-15K text file scrolling up your monitor screen at 300 baud – it takes forever and costs megabucks!

Used sensibly, comms can open up a whole new world for your micro at modest cost. Remember, you pay £14.99 or so for 8-bit disks and more for 16-bit software. By comparison, comms is cheap! ●

Technobabble
Express assault on computer jargon — Comms

Baud: Measure of transmission speeds given in signals per second e.g. 300, 1200, 2400 etc.
BBS: Bulletin Board Service. A piece of software usually running on a single machine, and which acts as a kind of electronic notice board. Callers can leave and receive messages, download and upload files.
Download: The act of transferring a file across the telephone network from someone else's computer to yours.
Upload: Opposite of download.
Modem: Device used to connect a computer to a telephone line, thereby allowing it to communicate with other computers.
SysOp: SYStem OPerator. Person in charge of and responsible for a bulletin board.
Auto-answer: Feature allowing modems to answer the telephone to incoming calls (usually from other machines).
Auto-dial: Feature allowing modems to dial the number of the service you require automatically, thereby ending the need for a telephone.
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Silva tongued

The latest Amiga paint package – DeluxePaint III – has taken the state of the art to new frontiers. Rik Haynes discovers DeluxePaint III's inner secrets by talking to its creator, Dan Silva.

● **When did you start writing *DeluxePaint III*?**
I think it was about a year and a half ago.

● **What where the most difficult parts to write?**
Without a doubt the most difficult part to write was the animation code – particularly compressing animation on the fly so you could edit the picture but immediately give the difference between that, the following picture and the previous picture and store them all in memory and have that working fast.
When I first implemented that, it took about 5 seconds to make any change to the picture.

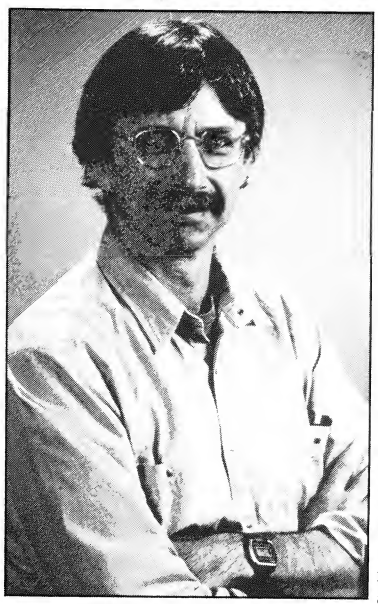
● **How fast is the animation compression routine now?**
It's so fast now you don't notice it.

● **Was the animation portion of the program the largest section to write?**
Yes, it takes up 50% of the program and took over half the development time.

● **What software and hardware did you use to develop *DeluxePaint III*?**
We use Electronic Arts' own custom-designed development system which we call the Artist's Work Station using IBM 286s and 386s, and our own cross-debugging set-up – which is a very good interactive debugger, allowing you to single step thru the code on the PC and simultaneously see the results displayed on the Amiga. The code itself was mainly written in Aztec C, with all the time-critical parts – such as the perspective fill and color-cycling code – written in Assembler language.

● **You've included extra-halfbrite mode in *DeluxePaint III*, so why didn't you include HAM mode?**
HAM is a real pain – I just want individual pixels. Every time I look at including HAM, the impact on the program architecture is just too major for me, and it would make portability to other micros even more difficult. Up till now I've managed to find better uses of the other graphics modes without resorting to HAM.

● **Why didn't you use the *ARP* file requester?**
That's another area I could improve. I've seen the *ARP* and it's really neat – but I've already built my own shell over the top of Intuition, so I can generate requesters using only a limited amount of memory. I'd rather spend time developing new animation routines than rewriting something that already works OK.



● **What do you think is the worst feature in *DeluxePaint III*?**
I should wait for users to find that out – but I think the most annoying feature of *DeluxePaint III* is that I didn't get to include all the elements of animation that I wanted to incorporate. However, I can't think of anything that I'd call a bad feature.

● **What do you think is the best feature in *DeluxePaint III*?**
I'd say the three dimensional move capability which lets the non-artist produce quite complex animations in a simple, quick and fun to use way.

● **Why should people buy *DeluxePaint III* – what makes it stand out from the competition?**
First of all, it's a big improvement in the paint program's capabilities alone. Almost every part of the program has been retouched in some way – either speeded up or the interfaces cleaned up, things like that. Secondly, it opens up a whole world of art where the difference between static art and animation is blurred. I'm very excited by the possibilities of this combination.

● **Is this how you foresee *DPaint* developing in the future?**
I think you'll see from the animation stuff I do now with *DeluxePaint III* that I've already started in that direction – with you able to create free form animation and save out standard moves and effects, and make it more of a push button tool for anybody to use.

● **What do you think is the worst feature of the Amiga?**
I do have problems with the system software – it's complicated to use, hard to work with and multi-tasks when it doesn't need to.

● **What do you think is the best feature of the Amiga?**
The custom-designed graphics and sound chips.

● **If you could change three things about the Amiga, what would you alter?**
The operating system, I'd make the hi-res not flicker, and I'd make the Amiga have 256 colors – a sort of extra extra-halfbrite mode.

● **What are your five favourite pieces of Amiga hardware and software?**
This is embarrassing, I don't really use the Amiga except for *Dpaint*. I don't play games, although I recently got hooked for weeks on a Public Domain game called *Grav Attack*. I'd like to have time to keep up with Amiga hardware and software developments like the *Video Toaster* and *Sculpt 4-D*.

● **Where would you like to see the Amiga in five years time?**
I'd like to see it become "The Standard" for low-cost video production – and to see desktop video production become reality, with people able to produce their own *MTV* videos – with the Amiga at the centre of it all.

● **Did you enjoy working at Lucasfilm?**
It was a very interesting and educational experience – but I think the film industry's expectations for how long computer graphics in the movies would take to become a reality were totally unrealistic. That's why I got out of it.

● **If you weren't a programmer, what do you suppose you'd do?**
I think I'd be a musician... perhaps.

● **What's your favourite food and drink?**
To be real specific it's the red and green enchiladas at Pancho's Mexican restaurant in Fairfax, and margaritas.

● **What other EA projects have you worked on in the past?**
I've worked on *Cut and Paste* and I ported *One on One* and *Pinball Construction Set* to the IBM – things like that.

● **What project are you currently working on?**
I'm beta testing an EA MIDI sequencing product on the Mac.

● **What's going to be your next project?**
I can't say exactly, but it will be in the graphics and animation area.

● **Will *DeluxePaint III* be converted over to any other micro formats?**
I don't know the precise details at present. Our IBM programmer Steve Shaw is currently working on a PC version which will incorporate aspects from Amiga *DeluxePaint III*, but it's oriented a little differently because of the different PC and Amiga markets. I believe there are plans for an ST version in Europe, but I'm not totally sure on that.

● **Are there plans for *DeluxePaint IV*?**
I've a growing list of things to include in *DeluxePaint IV* – tweaking what's already in *DeluxePaint III*, that sort of thing. I can't think of anything major to include right now. Though while I take a rest from *DeluxePaint* I may think of something new to include... ●

Technobabble

Enchiladas

Enchiladas are a Latin American food dish made up of a Tortilla (thin flat maize cake) filled with meat, peppers and chilli sauce.

Dan Silva Bio

● Born in Van Nuys, Southern California on 12th December, 1942

● Studied Mechanical Engineering at Stanford University – he eventually got a BSM and MSM in M/E. Stanford saw his interest in computer technology awaken when he used a computer to synthesise kinematic linkages.

● He then worked for four years at Informatics, a contractor to the NASA Ames laboratory, reinforcing his interest in computing by writing an interactive language for displaying mathematical equations.

● By 1978, he joined Xerox where he worked on user interface design for the Xerox Star System.

● Then followed a year at Lucasfilm designing a video editor for its computer graphics division setup by George Lucas to integrate computer graphics, video editing and computer audio into mainstream moviemaking.

● After that, he went back to Xerox to work on a next generation bitmap editor with Bill Bowman. This project developed into the black and white paint program, *Doodle*, running on the Xerox Dandelion computer.

● In 1983 he joined Electronic Arts and started work on an in-house paint program called *Prism*. With the release of the Amiga in 1985, *Prism* became *DeluxePaint* and the rest (as they say) is history...

clik - ST

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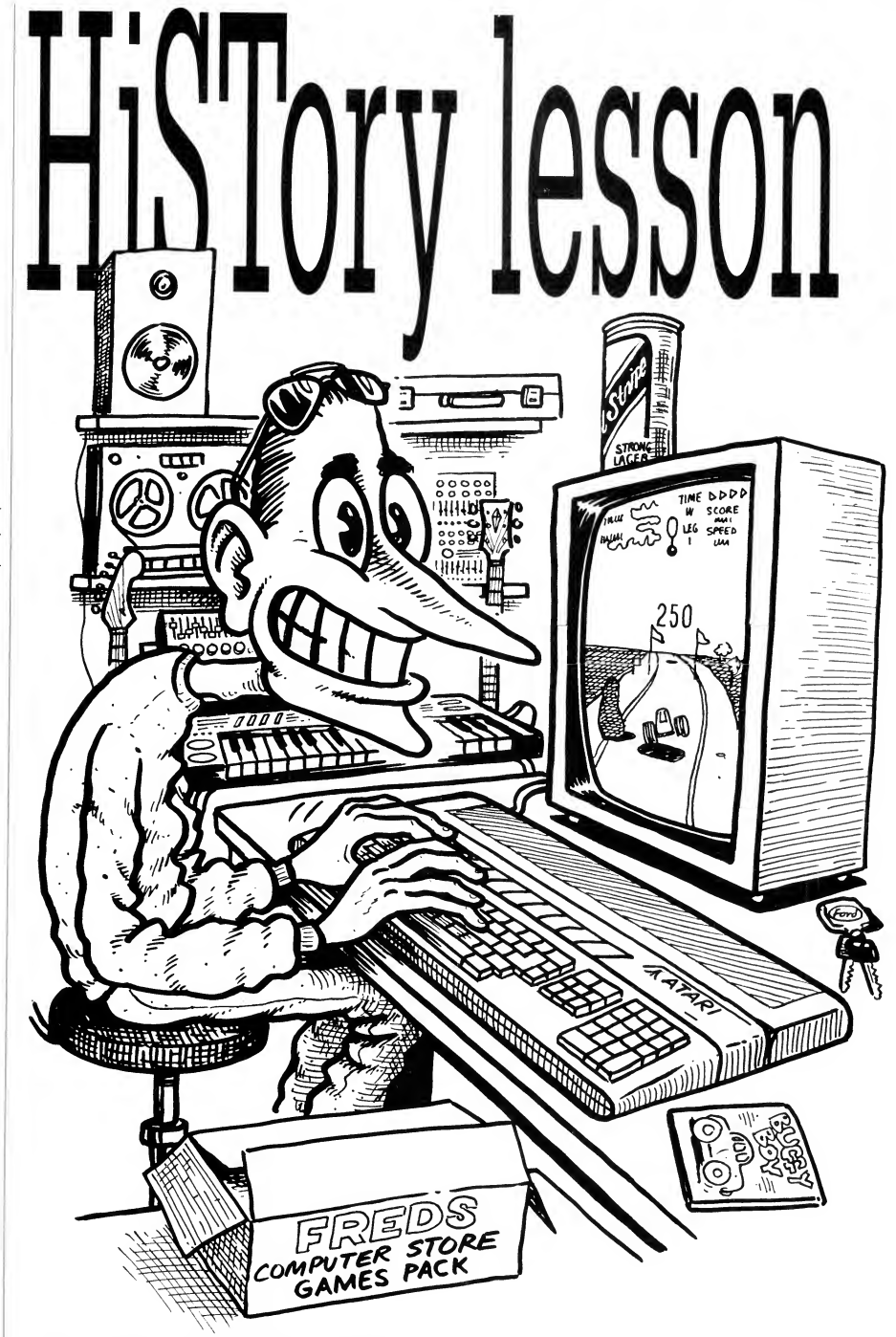
HiSTory lesson

You'd be forgiven for thinking the ST a newcomer. Only this last year has the machine become the darling of the press; barely a week goes by without it making the headlines.

Yet the ST has been lurking around for almost four years. Richard Monteiro tells its tale...



The ST story starts back in January 1983 – Friday 13th of all days – when Jack Tramiel abruptly left Commodore. If Commodore's chairman, Irving Gould, hadn't disproved of Jack's idea of placing the Tramiel sons in senior executive positions at Commodore, the ST might not be here today. At the time of Jack's departure, the once-thriving Atari was a billion dollar headache for owner Warner Communications. After hitting $2 billion sales in 1982, Atari's sales flopped. Instead of making money, it lost hundreds of millions – around $538 million in '83.

That's when Warner approached Jack. The final deal, which has amazed securities analysts for years, involved Warner selling Atari to Jack and Jack borrowing the money from Warner to buy Atari. Warner got the bum side of the deal, if you haven't worked it out yet.

Sex crime

1984 was the year that Atari slung a $100 million lawsuit at Commodore. It transpires that Atari had bankrolled Amiga Inc – this was before Jack appeared on the scene – to the tune of $500,000. Apparently Amiga gave back the money to Atari and sold the developments to Commodore for over $20 million. Those developments, of course, appeared later as the Amiga A2000 and then the A500.

Not to be outdone, Jack ordered his engineers to get to work on a 68000-based machine. This wasn't such an impossible task as it sounds because much of Commodore's top talent joined Jack at Atari. With them, they brought the numerous ideas that had been floating around during Jack's time at Commodore.

It was at the January 1985 CES show in the States that the ST was first shown. An extraordinary turn around. Something that wouldn't have been possible if many off-the-shelf items weren't packed into the machine. The most obvious time saver was the inclusion of the GEM operating system. Europeans saw the ST for the first time at the Hanover show in March of the same year. Five months later the machine was displayed at the PCW show in the UK.

Atari baby

Shortly after the PCW, it was actually possible to buy the ST in Britain. At that time a 512K machine plus monochrome monitor cost £749.99. Bad news for the bank balance. The first STs came in several bits – processing unit, disk drive, power supply and operating system on disk. The machine was

ST tech spec

16-bit in computerspeak is the equivalent of 16-valve in fastcarspeak. Both conjure images of speed and power. The ST – with its high powered initials – could almost be a fast car. In fact, ST stands for Sixteen Thirtytwo (not Sam Tramiel, son of Atari's president Jack Tramiel, as many romantics would have you believe). Unless you're a programmer sixteen thirtytwo is meaningless.

At the core of all STs lies Motorola's 68000 micro processor running at 8Mhz; this chip talks to the rest of the circuitry using 16-bits (hence 16-bit machine) while it talks to itself in 32-bits. Generally, the more bits flying about the faster program execution takes place.

Amongst its armoury the ST has a minimum of 512K memory (expandable to 4Mbytes); 128K ROM which contains GEM and TOS; the graphics chip Shifter which is capable of a 320 by 200 16-colour resolution, 640 by 200 4-colour resolution and 640 by 400 monochrome resolution (colours are chosen from a palette of 512); YM-2149 sound generator that produces three-channel square sound waves. The Megas also have a blitter chip which speeds up graphics operations.

Connections include cartridge port (which can accept 128K of ROM), monitor socket, second drive slot, DMA port, MIDI sockets, parallel (or printer) port and serial interface.

Amazing facts 1

- Nolan Bushnell, who created the first fragrantly titled video game Pong, was also responsible for naming his company 'Watch out or I'm going to get you on your next move' – the translation for Atari which appears in the Japanese game called Go.
- Digital Research commissioned Bristol-based Metacomco to write a version of BASIC for the PC – Personal BASIC. It was converted for and supplied with earlier Amigas until Microsoft, who had originally been drafted in to write Amiga BASIC, finished their version. Commodore switched to Microsoft's BASIC when it was completed and Atari adopted the cast-off, now known as ST BASIC.
- It's not generally known that during a freezing night in September 1980 Jack Tramiel was almost killed when the jet he was flying in caught fire at 20,000 feet. Along with several executives, Jack was in a burning plane for around 45 minutes before the pilot managed to land. It's a miracle the fire didn't reach the fuel tanks.

known as the Atari 520ST.

Software at that stage was in short supply – and pretty awful, the most notable exception being the wonderfully addictive Megaroids.

During the first half of '86 the STM appeared; the only difference to the original model being the inclusion of a modulator (hence the M) which meant owners could use the ST with a television. At long last there was a way of getting at the ST's colour modes. The STFM appeared later the same year. The floppy disk and power supply were combined with the processing hardware and keyboard to provide the now familiar ST unit.

Four years of the Atari ST...

1985

January – First sightings of the ST rat the CES show.

September – UK is shown the machine at the PCW show; shortly afterwards it becomes publically available. The first ST comprises a disk drive, keyboard and processing unit, and power supply.

1986

February – The ST gets a modulator and an M tagged to its title. It's now possible to hook the computer to a television. TOS now in ROM.

March – All the bits and pieces of the ST are brought together into one box. An F has also been added to the name. The machine is now called the 520STFM.

April – The 1040STF appears. A 1Mbyte machine with a £799 plus VAT price. Also, Sam Tramiel announces that an enhanced ST will be available in late '86 or early '87. Shome mishtake shurley?

September – The Atari village at the PCW had some surprises on show: the blitter chip, and Mega 2 and Mega 4 machines.

1987

January – Megas are due in the shops in the second quarter of the year and will come supplied with a blitter.

February – Atari drops ST prices; 520STFM costs £399. The SC1224 colour monitor is introduced at the same price.

May – Megas are at last available... but shipping without blitter.

September – Megas still shipping with no blitter.

1988

June – Laptop ST rumours.

July – The 1040 now has a modulator built in. Its title changes to 1040STFM.

September – 520 reduced to £299. A special bundling deal which consists of 21 games and Organiser is put together for the 520. The price for the bundle is £399.

December – Stacey laptop not shown at Comdex.

1989

January – More news on the Super ST. It's going to have a '030 processor and lots of colours. But then again it might have a 16MHz-rated 68000 with no graphics.

February – A new 1Mbyte ST is announced. This one will look like standard Mega STs, but will only have 1Mbyte.

March – Stacey is seen at Hanover. Shipment is expected any day.

Amazing facts 2

- Several models of the ST have been proposed – some have even reached prototype stage – but have never been publically available. For instance, the 260ST with 256K of memory (they say it's big in Canada), the 780ST which was said to have 750K and the 4Mbyte 4160ST. The 4160ST is available, in a different box; it's called a Mega ST4.
- TOS – the operating system (not Tramiel operating system as many would have you believe) – is continuously being updated. The latest, 1.4, should be complete in a few months time. The OS is kept in ROM; with the help of a good memory editor you can discover messages left by the programmers.
- Bob Gleadow, Atari UK's MD, was once a Commodorian; with many top Commodore people, Bob moved to Atari when Jack left Commodore.
- STs are put together by Taiwanese whose average age is 12, and who are cheaper than STs.

Future shocks

From '86 onwards things become blurred because of Atari's habit of announcing hardware months before it's available. It's a good policy because if something is announced and it gets a luke warm reception, there's little point in marketing the product. So far this has worked well – can you think of anything Atari has officially launched in recent times that has flopped?

The ST is certainly the most sought after micro currently. Something to do with price and there being a machine for every application. At the moment there are four machines: 520, 1040, Mega 2 and Mega 4. But the end of the year there could well be another four: laptop (Stacey), Mega 1, EST (enhanced ST) and console. If Atari keeps launching more powerful versions of the machine, the ST's success is guaranteed well into the '90s.●

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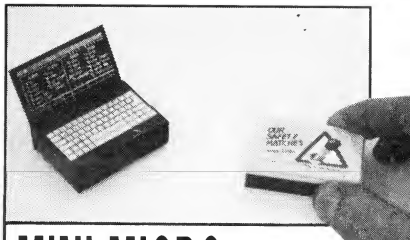

MINI MICRO

The worlds smallest micro – for under £50 page 31

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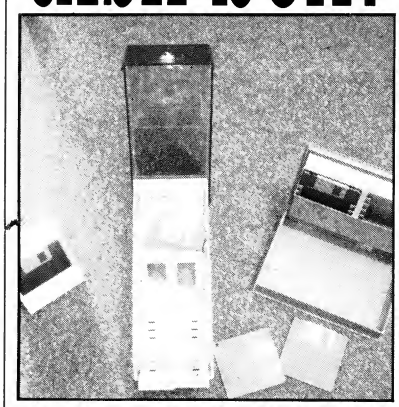

Express reveals the facts – and fearlessly names the best buys! – page 15

YET ANOTHER RUDDY BUNDLE

Amiga to be bundled with ST shock – page 2

Obituary columns for YOUR machine

Memotech
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– pages 37–44

BUDGET PC SPREADSHEETS

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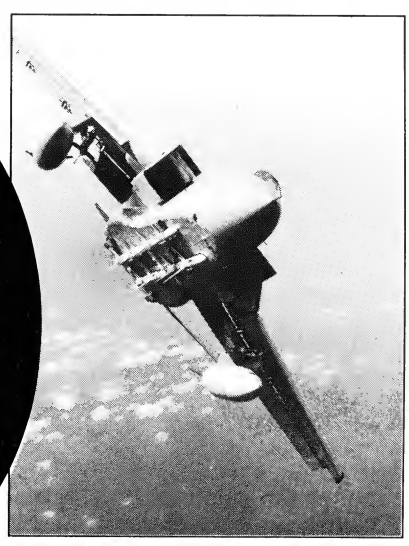


STAR GLIDER III

EXCLUSIVE!

Stunning realtime ray-traced CD graphics – page 55

Waffle 4 • Listings 7 • Nonsense 10 • More listings 16 • Hype 22 • Yet more listings 30 • Comms 32-54 • More listings 59

IT'S ANOTHER SUPER OFFER

By Our Man In An Anorak *Sir Giles McLibellous*

Following a string of amazing 16-bit offers this year Commodore and Atari have come up with what must be their most impressive deal yet.

In a shock move the two manufacturers have decided to bundle the ST and Amiga – together. Excess can reveal that hardware buyers can now take home the two machines for the price of one.

Whilst some have commented that the two manufacturers bids to win the 16-bit pound have bordered on the overly generous this must be their most impressive offer to date.

It is understood that the ST and Amiga will come in the same box along with one top selling game, 33,798 awful games, 14 bug ridden DTP packages, 26 paint packages, an Archimedes emulator, a free holiday in Bolivia and a chance to represent one of the firms in a court case of your choice. The notional value of this package is $74 million.

A Commodore spokesman spouted: "This really is a value added offer which will attract the upwardly mobile buyer. You know the ST is really the perfect add on for the Amiga. I always did think it was a marvellous machine."

In contrast Atari's spokesman declined to comment saying only: "I don't know anything about it and if I did I wouldn't tell you lot. Go away." It has been suggested that Atari feels this bundle is the only way to offer the ST with stereo sound. This is being entirely refuted by the firm.

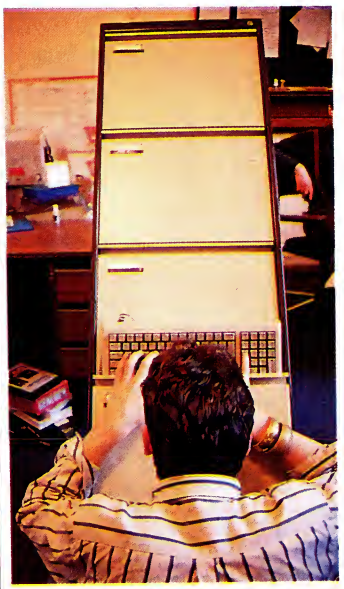
Both companies are hoping to attract first time buyers who don't know the first thing about computers. The bundle is expected to last until about 3pm on Sunday afternoon.

Thatcher hits the roof

In a surprise move this week, UK Silver announced a tie-in licence deal with Madame Tussauds involving the unlikeliest of characters – Mrs Thatcher. The game will place you in the role of the Iron Lady herself, and the aim is to sack all the members of the cabinet before the next general election. Along the way you will be able to pick up various useful items, like Murdochs, Parkinsons and disposable Channons. Blue Ninja is due for release this Christmas on all major formats, plus MSX.

Cray laptop!

The manufacturers of the fastest mainframe in the world announced plans to launch a laptop version. Provisionally called the Cray Fiche, it can address 34Gb of RAM with a 32-bit main processor running at 51Mhz. A company spokesman said "the Cray Laptop will cater for all the needs of the modern power user". Expected to retail for £6,999,999.95, the new machine should be available as you read this.



• The Cray Fiche: catering for the "power user"

Cousteau coup

Hawaiian manufacturer Coral has just previewed a prototype of its new underwater computer, the Oceania. Designed to operate at depths of upto 300ft, the A4 sized hand held is taking divers by storm. Featuring a liquid crystal display, the machine is PC-compatible and file transfer is possible with the waterproof leads supplied. Built-in software includes an integrated diary and calendar suite, on-line comms facility and a fish identification database.

Swan lights up PC world

Ever hot on exclusives, Express brings you the first screenshot of Swan Systems' new micro, The Purse PC. Although the miniature super-twist screen supports a full 80 column display with characters barely discernable to the naked eye, Swan is bundling The Purse with glasses able to magnify on-screen images to a size claimed to emulate a 14" monitor. Critics of the small keyboard were silenced when Swan announced the inclusion of an ingenious pair of gloves featuring needle point finger tips. The Purse PC is expected to sell for less than £50.

• The new Swan Purse shown next to a matchbox

TOP 20 *Full Price* GAMES

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2	**Psycho Ninja** WATER GAMES	*Spectrum, C64, CPC*
3	**MG Club Speed Trials** BORETECH	*Spectrum, C64, CPC, ST, Amiga*
4	**Clough Ninja** BALLMASTERS	*Spectrum, C64*
5	**More Games** BULK SHIFTERS	*Spec, C64, CPC*
6	**Operation Frog** AMPHIBIONICS	*Spectrum, C64, CPC, ST, Amiga*
7	**Borstal Tutor** DEPARTMENT OF EDUCATION	*Spectrum, C64, CPC, BBC*
8	**Cessna** MAGGOTSOFT	*ST, Amiga, PC*
9	**Pratmania** CRETIN SOFTWARE	*Spectrum, C64, CPC, ST, Amiga*
10	**Vat Man** SCRUBS ENTERPRISE SCHEME	*Spectrum, C64, CPC, ST, Amiga*
11	**Afterthought** FLACCIDWARE INC	*Spectrum, C64, CPC, ST, Amiga*
12	**Dunarius** SANDYVISION	*C64, Amiga*
13	**Thunder Blag** RONNIE & BUSTER	*Spectrum, C64, CPC, ST, Amiga*
14	**Double Dross** SIDNEY OPERA HOUSE	*Spectrum, C64, ST, Amiga, PC*
15	**Midgets** TRANSATLANTIC TOSH	*Spec, C64, CPC*
16	**War In Macclesfield** FUTUREWARE	*Spec, C64, CPC*
17	**Barbarian 268** SHED	*Spectrum, C64, ST*
18	**Penultimate Ninja 43** RETRODIRGE	*Spectrum, C64, CPC*
19	**Bollixik** PROLAPSE	*ST, Amiga, PC*
20	**TV Crap Licences** TELLYNOB	*Amiga*

TOP TEN *Budget* GAMES

1	**SBS Coracle Sim** COD BLASTERS	*Spectrum, CPC*
2	**Tedious Island** ETERNAL BUGWARE	*Spec, CPC*
3	**Weed Games** DRIPS	*Spectrum, C64, CPC, MSX*
4	**Bum Jab** MEDISIMS	*Spectrum, C64, CPC, ST, C16*
5	**Joe Bloat 2** SAINSBURYS	*Spectrum, C64, CPC, BBC, C16, Electron*
6	**Mitten** WRAPUPWARMWARE	*Spectrum, C64, CPC, Atari 8-bit, MSX*
7	**Gameplay Simulator** LOADERS	*Spectrum, CPC*
8	**Large Dog In Cheam** PALSOFT	*Spectrum, C64, CPC*
9	**Potboilers** TRIPOCHRONIC	*Spectrum, C64, CPC, Atari 8-bit*
10	**Format 11** MIRACLE	*Spectrum, C64, CPC*

RE re-entry • NE new entry • Last week's positions

Compiled by Excess

INTERNATIONAL ASSASSIN SIMULATOR

CARNAGE EPICS

Amiga • £29.99dk
Also on ST, PC, C64

Featuring the very latest in realtime digital effects, Assassin sets out to seek the success scored by the legendary *Communist Execution Simulator* and *Advanced Genocide Simulator*.

● GAMEPLAY

Assassin comprises three levels in which you play a nameless killer with a brief to murder five of the world's leaders as quickly as possible.

● GRAPHICS AND SOUND

Although the resolution, colour and smoothness of the moving video sequences is excellent, the attention to detail displayed in the way blood seems to hit the inside of your monitor is truly awesome. Similarly, the treatment of gaping wounds and dismemberment is

• Blow off de Gaulle's hooter before the feds pile in

fabulous. As you might expect, sound is confined to the prolonged screams of death-throe agony and is in stereo.

● OTHER VERSIONS

Just as you'd imagine on every other load of old tosh that isn't an Amiga.

● EXCESS VERDICT

If you like this sort of game, it's the sort of game for you. If not, don't buy it.

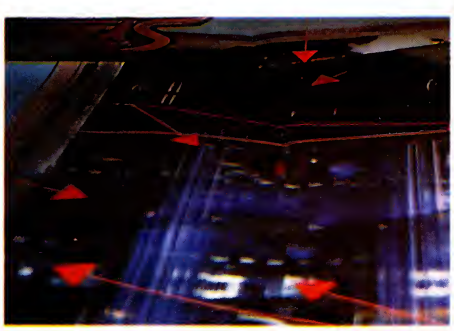
✪ ✪ ✪ ✪ **Frederick Foresight**

CYBER CHESS

CHIBA CITY CIRCUITS

Archimedes • £39.95dk
Also on ST, Amiga, MSX

Chiba's recent releases achieved wide spread notoriety with reported deaths now amounting to over 200. Will *Cyber Chess* deliver the same kind of impact we've come to expect?



• Piling through the ICE on the way to flatlining King's Pawn 3

● GAMEPLAY

Whizzing through a Mach 2 fractal landscape on a search for conceptuals. Flat Line fall-back is, for the most part, indistinguishable from Construct distribution so working out strategic navigation through sub-cyber levels is relatively easy. Neural feedback is minimal and accelerations tilt to the max.

● GRAPHICS AND SOUND

Vision fields extend beyond normal stereoscopic range to open up an area stretching vertically to mid-cranium. The effect is well zarjaz! Full res def is total and graded kick-in fully responsive. Sonic receptor levels are, again, very upstream – spine-trodes positively reverberate as neural overload fades up to the op.

● OTHER VERSIONS

Cyber Chess looks good on both the A500 and the ST but nowhere near as grip as on the Meiga. Not so good on the Spectrum.

● EXCESS VERDICT

Well worth smuggling code for. Main line input is on 0225 446034.

✪ ✪ ✪ ✪ ✪ **Billy Gibson**

DEATHMASH IV

BLUDSOKE SOFTWARE

ST • £19.99dk
Also on BBC, MSX, Atari 8-bit, C16, Dragon 32, Oric Atmos, ZX81

You take the role of Luke Scytheslasher, Intergalactic Genocide Officer in this vertically-scrolling shoot-'em-up from Bludsoke.

● GAMEPLAY

It's your job to rid the universe of the evil alien Zgmmmrrgnbgngobos as they swarm into your solar system from outer space spreading death and destruction in your path only you can stop them with your transformable land-cruising jet fighter spaceship with collectible weapons such as phasers slashers invincibility shield five pound claw hammers and nuclear

• Level Three, and the first wave of Centauran Battledroids

disembowellers only you can stop them or have I already said that and then destroy the end-of-level guardians in this unique outing on the ST.

● GRAPHICS AND SOUND

Sprites are pretty well what you would expect given the limitations of the machine. The scrolling backdrops are fortunately kept in the background, where they scroll either upwards or downwards, one or the other. Sound is confined to the explosion of the aliens' entrails as their slimy green bodies are exposed to the vacuum of deep space when your phaser rips its hull to shreds. Limited realism.

● OTHER VERSIONS

Already available on lots of other machines. The versions vary according to how good they are.

● EXCESS VERDICT

It's been a long time since we've seen anything this original on the ST. It was so refreshing to be able to pick up the phasers *before* the invincibility shields, which is so rare in a game of this type.

✪ **Bluto McThud**

TECH TIPS

TIP

Sound idea

A constant problem with the PCW is its lack of a proper sound chip. It can only emit a single "beep" – this can get rather annoying after a while.

However, this simple addition to the machine will give you full stereo sound. First, hire a major orchestra for an evening, such as the City of Birmingham Symphony Orchestra or the LSO. Then, write out the tunes you want to play in orchestral parts, remembering to transpose for instruments such as the horn and the clarinet, and give them to the members of the orchestra.

Finally, write a simple BASIC program to flash the screen on and off in time with the music thus using the PCW as a conductor beating time for the orchestra. This can be achieved using CHR$(27)+"p" and CHR$(27)+"q". In this way you can handle even complex musical applications and write quite impressive sound tracks to games!

Simeon Twaddle, Godalming, Surrey

• The CBSO offers this word of warning: if talking to Simon Rattle, avoid mention of guinea pigs or Shostakovich, especially the later string quartets.

HELP!

MSXtremely boring

I have an MSX. Can you help me?

Ron Slugg, Newbury, Berks

• No.

TIP

Hardware upgrade

If you're an 8-bit owner like me and are jealous of your friends who have Amigas and STs, why not break into their house and steal their machine? Not only does this wipe the smile off their smug little faces, but it gives you 16-bit power for free!

Damien Flint, Northallerton, Yorkshire

HELP!

Interesting query

I have a Dragon 32 and would like to use some good word processing packages – it uses 5.25 inch disks. I have several at work on 5.25 inch disks but they are MS-DOS packages for use on a PC. Is there any way I can use them?

Eric McNulty, Birmingham

• Yes – quite easily, as it turns out! First check the serial number on the bottom of the case. If it ends in '566787' or '566788', remove the case and loosen the two screws holding the drive mechanism to the body of the machine, leaving enough space to solder a 560pF capacitor between the two exposed contacts; otherwise locate the dip switch behind the drive mechanism and simply select the '80 track' setting. Then put your Dragon in the bin, go and buy a PC, and run the word processing packages on that instead.

HELP!

Eighth dungeon problem

I've been playing *Dungeon Lair on Troll Planet Blood* on the ST solidly for months now and haven't got past the eighth dungeon. What should I do? Do you know any good pokes or tips? Please tell me what to do!

Neil Weatherall, London

• Try this tip. Quit the game, and click on the game files, selecting all. Then drag them into the waste basket. Turn off your machine and exit the bedroom. Walk down to the living room, and start talking to the members your family. (It's tricky at first, but you'll soon get the hang of it!).

TIP

Very interesting tip

I've noticed a very interesting thing on the BBC Master 128. If you hold down the leftmost RAM chips with a tyre lever while you've got the back off, you can unsolder two of the fourteen pins on

Welcome mat

The prospective mouse mat buyer is faced with a bewildering array of choice. Now MatTech reckon they've produced the ultimate. Peter Boredom, Editor of* Mouse Mat World, *tests it out...

SuperMat ● MatTech (0225 446034) ● £99.95

Mats have come a long way since the days of two inch plastic models. SuperMat boasts the latest in surfacing technology and has that characteristic 'silk on wood' feeling of top end mats. It is light, weighing in at just four ounces, comes with a protective leatherette carrying case and a detailed 300 page user manual. Registration entitles you to membership of the British Supportive Surfaces User Club and gives you subscription to the magazine *MatUser*.

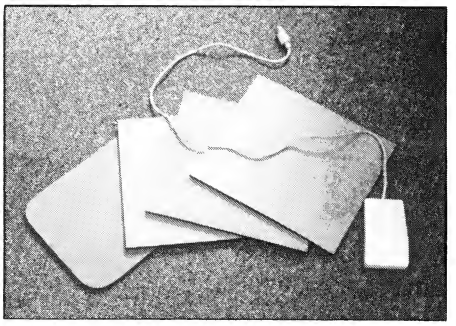
It will be a boon to desktop publisher and graphics users. The mat contains metal mesh to conduct away friction heat caused by intensive mouse movement when drawing – a welcome change from early mats which left the user with warm finger ends.

Caught by the blocks

SuperMat works spendidly with any leading package. *WordStar* can be a little smooth in the blocks menu, and *dBase* users should beware of long applications as the mat can get rather 'sticky' moving around long lines. Otherwise though the performance is smooth, judder-free, and every bit as good as we've come to expect from MatTech.

And just look at the spec: heat-sealed epoxy resin-based carbon fibre base, ability to withstand movement on the desktop in gusts of up to 300 mph, compatibility with mice of roll scan frequency up to 5MHz per milliradian, and an incredible drag coefficient at room temperature of 0.975. Only a few years ago with mats of this price you were lucky if you had a coefficient of 0.8!

The Mat comes in ST, PC, Mac and Amiga versions, with left-hand-ed options and a variety of colours available. The £69.95 upgrade adds a miniature chip inside the mat which 'learns' the shape of the desktops it is placed on and adjusts the surface shape for total smoothness. All in all a product that breaks new ground in mat technology. The mat for the '90s. ●



• MatTech's new baby clearly stands out from the rest of the crowd

Shoot from the Lip... *the week's most quotable sayings*

"It's a bit cold outside. Better put a coat on."
Sir Clive Sinclair on the recent cold spell

"The MSX was, and is still, the best machine going. If you compare specs, it outperforms an ST, an Amiga, a PC2000, a Mac, a Cray – the lot"
Ron Deranged, inmate of The Bluebell Home for the Mentally Ill, Berks

"This is the most exciting release for the BBC for over five years"
Eric Drudge of Nondescript Software on the release of *British Weather Patterns and Rainfall Distribution 1964-68*

"I'm afraid he's right"
Stan Crumb, Editor of *BBC Micro Monthly*

"If I see another bloody story about bundles, I'll – aargh –"
The last words of Dave Nobblington, *Express* reader

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John Cage Music Studio	£29.95
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Nigel Mansell Racing (Slight seconds)	£9.95
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Gypsy Lee's Fortune Teller	£tba
Pamella Bordes Spreadsheet	£19.95
Dan Quayle Intelligence Simulator	£29.95
Boeing 737 Flight sim	£19.95
Nigel Lawson Economics Manager	£19.95
	no make that £22.95
	er no better make it £24.95
	um no £25.95
(seasonally adjusted only £14.95 in real terms)	
Tom Keating Art Studio (not copy protected)	£19.95
Princess Di's Erly Lerning Packidge	£4.95
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'The Sun' Thesaurus (needs at least 1K RAM)	£4.95
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Steve Davis Test Card Simulator	£29.95

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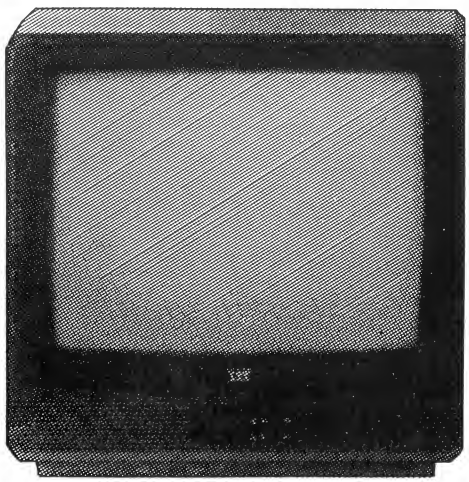

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ST

Atari on top

You might wonder why Atari is constantly in the headlines; it's all part of their great philosophy on announcing products before there's anything concrete to show. The press love it; the prospect of glossy hardware just drives 'em wild. Atari feeds hacks with information and waits for the public's reaction. If it's enthusiastic then it's possible the product will appear. If it's lukewarm then there's no way you'll see it. Atari plays safe. There's little chance of it producing an Einstein or an Enterprise.

The Abaq – or ATW – has certainly taken a long time coming. According to Les Player, Atari's technical manager, the machine is in full production now so it shouldn't be long before you can get your hands on a transputer-based machine. The price for the tower system has been set at £4,500. A cut-down version which doesn't have facilities for taking on extra transputer cards might eventually be brought out. The thinking behind the more modest model is that it can be used as a terminal and linked to the full-priced system. At one stage it was suggested that the transputer would appear in a form that meant it could be bolted onto the Mega ST – this idea has been dropped.

You don't want to know about the ATW though, do you? The EST, as Les called it, is much more interesting. This is the machine that will offer better graphic modes; a 4,096-colour palate has been suggested, but not decided upon. The E, incidentally, stands for 'Enhanced'. Suggestions for beefing up the processing speed have also been suggested – again nothing definite. If a faster processor is added, then it's likely to be a 16MHz-rated 68000 – and not an '020 or '030. The '030 is definitely out as that is being reserved for the Super ST. More on that in a moment. The EST will offer full ST compatibility – programmers can check which machine they're using and provide extra software facilities for the more powerful computer. Sound theory, but you know the problems encountered with different versions of TOS. Checking for a different graphics chip might be asking a bit too much. Let's hope not.

Atari's other ace is the Super ST – now dubbed the TT for Thirtytwo Thirtytwo – which won't really be an ST at all. Instead it will be an '030-based Unix-running super computer'. The fact that it runs well-behaved GEM/TOS programs really isn't an incentive for ST owners to rush out and buy it. When it appears.

£300 hard drive

Here's something that will interest fans of mass storage. Tempest Computers is offering to make up hard disks to order for the ST. Tempest expects to be able to supply disks of any capacity and reckons on a starting price of under £300. 20Mbytes for under £300 sounds like a fairy story – but it would be excellent news. It's also an impressive target, considering the cheapest hard disk on the market is Third Coast's 20Meg ST drive – even that costs £399.

Gary Drake, Tempest's technical sales manager, said: "There is no reason for ST hard disks to cost so much. I can supply PC-compatible 10 or 20Mbyte for under a third of the price of ST drives. Manufacturers know users will pay inflated prices; Tempest hopes to put an end to that and release drives at sensible prices." Tempest is at **EOS House, 145 Staple Hill Rd, Fishponds, Bristol, BS16 5AG** (0272) 574569.

Briefs

● An improved version of *Sprite Master* for the ST has been released by Soft Bits (01-836 2533). It rotates objects faster and has improved circle routines. Existing users can upgrade to version 1.3 by returning their original disk with a stamp to cover postage.

● *Flair Paint* has been taken over by Database Software. This comes as little surprise as AMS/Logitech is moving into the PC/Apple Mac. The price remains the same. Details on 0625 878888.

Ultima V tips

To destroy the Shadowlords you must first know their names. These can be learned by going to one of the three castles that represents the Principle that each Shadowlord opposes. Once there, ask the owner of the castle (normally the king) about the Shadowlords. Usually you will be told where to go and who to ask for further information.

Without giving too much away, the next stage involves getting a shard of the gem of Manadrin. This can be found in the Underworld. From there you must go to the castle that the Shadowlord opposes. For instance, if you are trying to dispose of the Shadowlord of Hatred, you would go to the Flame of Love. That's more than enough to be getting on with.

● Intelligent Music's Realtime sequencer for the ST is now available from MCMXCIX (01-724 4104). It can handle 256 tracks and editing is possible in real time – hence the name. It costs £199. Also for the ST from MCM is *Dr T Orchestrater*, a sound database which allows you to sort through thousands of sounds.

● Language specialist HiSoft (0525 718181) is importing Data Pacific's *Spectre 128* Apple Mac emulator. The advantage this emulator has over others is that Mac disks can be read and written by the ST.

● A collection of fancy borders for graphics and DTP applications is on sale from Electric Distribution (0480 496666). *Border Packs* contains 43 patterns in GEM Metafile format on ST-format disk for £29.95.

● Database's latest piece of educational software, *Fun School 2*, is now available on the ST and Amiga. The program has three different versions for under sixes, six to eight-year-olds and over eights. Database is on 0625 878888.

Adrion McHerriot

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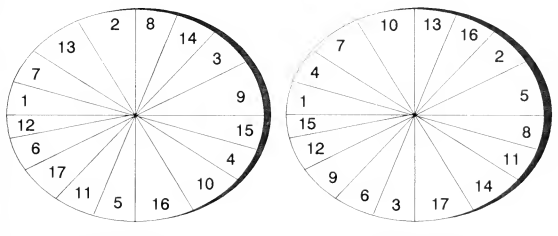
PC UPDATE

Hard Disk Interleave

Hands up all those whose hard disks have the correct interleave factor. Are you sure? Do you even know what I'm on about? The interleave factor of a hard disk is the number of non-sequential sectors between each two sequential ones. It's rather easier to explain this with a diagram.



Hard disk platter with interleave factor of 3 — Hard disk platter with interleave factor of 6

In the first of these two disks, the interleave is 3, while in the second it's 6. If you count round from the sector marked 1 to the sector marked 2 and so on, you'll see that there are 3 and 6 intervening sectors respectively. Given that the rotational speed of any hard disk is 3,600 rpm, the data will obviously be read faster from the disk with an interleave of 3 than that with an interleave of 6. And if the interleave factor is too low for each sector to be read in progression, the disk will have to make a complete revolution between each.

This can have a devastating effect on the apparent speed of the hard disk drive. For example, a correctly interleaved drive with an interleave factor of 3 can read an entire track (about 9K of data) in three revolutions of the disk, or 50ms. If it misses each sequential sector and has to go for a complete revolution to reach the next, it'll take 17 revolutions, or 283ms – nearly six times as long!

What you really need is a program to check the current interleave on your system and compare it with the ideal value. Just such a program is *Spinwrite*, from Gibson Research Corp in the US. This handy utility not only tells you what your ideal interleave should be, it also puts it right, without disturbing any data on your hard disk. It can take a while to do the job, though. Send to Shareware Marketing, with a cheque for £45.95, for the full system, or check out the May issue of the *PC Plus SuperDisk*, which includes the testing parts of the program. Shareware Marketing is on 0297 24088.

MicroCache

While I'm writing about speed enhancements, I've had the latest version of *MicroCache* (4.41) through from Microcosm Research. This program, if you haven't come across it before, is a software cache which acts as an intermediary between main memory and your floppy or hard disk. Where it differs from a conventional RAM disk is that the cache can detect which files your current application uses most regularly, and keep those in memory. This 'intelligence' generally means you can gain a significant speed improvement.

Once you've installed *Microcache* by telling it which drives you want to cache and how much memory you can spare, the program runs and you can forget it. Obviously, disk intensive applications display the biggest speed improvements, but even the odd directory call will be much speeded by being buffered in RAM.

As well as the cache program itself, the package includes *SpeedWrite*, which will write all disk saves from the cache to disk in the background. This helps to protect the system from power drop-outs, which could potentially lose any files in the cache which haven't been saved back to disk. As the final member of the trio, *Jet Print* acts as a fast print spooler, returning control to you almost immediately when you set a document printing. All the *MicroCache* programs can make use of EMS or extended memory as well as the hard core of 640K. More details from Microcosm on 01-226 9092.

386 Tower

Having finally come to a decision and ordered the Aries 386 Tower from Watford Electronics, I had a wait of two weeks, which turned out to be their pre-sales test period. It appears I really have one of the first machines off the production line, and first impressions are very good. The 2Mb of RAM is 32-bit and true zero wait state (meaning that the processor is never left waiting for memory to deliver data). It's also 60ns throughout, which is pretty fast.

Both 1.2Mb 5.25" and 1.44Mb 3.5" drives are included and the mono monitor is supplied with a dual standard EGA card, which can run colour if I choose to use an EGA monitor. I do, and have relegated the flat screen paper-white job to my old XT.

The only apparent problem is that the supplied hard disk is giving an average access time of 56ms and a data transfer rate of 160 Kbits/sec. The disk is supposed to be 28ms access time, but Watford has promised me a replacement and assured me that 'real people' will get one as standard. I'm sure it's right.

Tuning the hard disk is one of the reasons behind my current interest in interleave factors and the like. I heard recently that Atari's PC5 AT has a hard disk with a data transfer rate of over 700 Kbits/sec. That's really flying!

Simon Williams

Extra MS-DOS

One of the goodies which I've never had before, and now have courtesy of Watford Electronics and their tower machine, is a pukka copy of the MS-DOS 3.3 manual. It's a hefty tome, but full of lots of interesting snippets which it's all too easy to overlook in your haste to start using a PC. It explains how to use EDLIN and DEBUG, for instance, should you really need to use them.

More to the point, it details commands like XCOPY. If you want to copy the entire contents of a disk, including all subdirectories, from A: to B:, you can use the command XCOPY A:*.* B: /S/E.

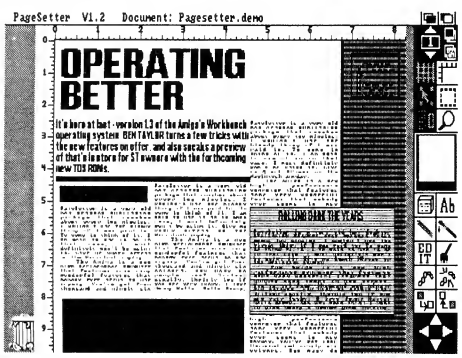
This is particularly useful if you have two non-identical drives on your machine, and can't therefore use the DISKCOPY command.

AMIGA BLIT

A Complete DTP solution?

Taking me completely by surprise, a rather interesting software bundle dropped with a rather loud 'thud' onto my desk this week. The package, called *Publishers Choice*, is the latest attempt to capture sales within the rather confused Amiga DTP market.

Publishers Choice comprises three previously released software titles in one rather hefty package. The heart of the package is the page layout program, *PageSetter*, from the American company Gold Disk Inc. *PageSetter* was the predecessor of the current Amiga number one DTP program, *Professional Page*. While the program is no competition for a heavy weight package such as *ProPage*, *PageSetter* provides an ideal introduction to DTP for beginners.



• PageSetter is an ideal introduction to DTP for the beginner

The second program in the suite, is the Disk Company's highly regarded (not by me however, give me *Protext* any day!) word processor, *Kind Words 2*. With *KW2*, you can write all the copy for your page layouts and then import them straight into *PageSetter* with no fuss at all. *Kind Words 2* includes a thesaurus, spell checker and the ability to import graphics.

The final program within *Publishers Choice* is *LaserScript*, the companion program to *PageSetter* that allows you to output your pages to a PostScript-compatible laser printer. Also included within the package is a comprehensive collection of fonts and IFF clip art.

Mac Emulator Latest

At the recent AmiExpo in New York, ReadySoft demoed its eagerly awaited Amiga Macintosh Emulator. The Emulator, now officially called *A-MAX*, looks set to be very hot property when it is eventually released in the United States at the end of March, priced between $150 and $200.

A-MAX, like similar units on the Atari, comprises both hardware and software. However, unlike the Atari Emulators, the *A-MAX* product can accept both Mac 64K and 128K ROMS. The actual hardware plugs into the disk drive port of any Amiga and provides a pass-through to allow you to plug your external drives in. The unit also provides a socket to allow you to plug a Macintosh drive into the Amiga, although this is not absolutely necessary for effective use of the emulator.

A-MAX comes complete with transfer software to allow you to port Macintosh software across onto the special *A-MAX* format floppies. Although *A-MAX* does not allow Amiga drives complete compatibility with Macintosh floppies, due to the rather strange way Mac drives work, the Amiga drives can read about a third of a Mac Disk. This is probably not of great use and access to a 'real' Macintosh is recommended.

Where software compatibility is concerned, *A-MAX* appears to come out very well. Indeed, some programs that don't work on the Mac II work fine under *A-MAX*. Commercial Mac packages that most certainly do work under *A-MAX* include *MicroSoft Word*, *Excel*, *MacWrite* and *MacPaint*, *PageMaker*, *FullPaint* and various others. ReadySoft can be contacted on (416) 731 4175.

Game Snippets...

Game Snippets? This really is starting to become a bad habit you know! To think, people tell me that I am by definition, a serious computer user! Why shouldn't computers be used for games? After all, a computer is merely a tool that can be used to carry out many diverse tasks. So why not exploit its obvious talent as an entertainment medium? Anyway, enough of the soap box rhetoric, here's a quick run down of what you can expect your Amiga to be playing within the next couple of months:

● **Afterburner:** The Amiga version is finally with us but after playing it extensively, one finds oneself asking if it was all really worth it? The game is most certainly more playable than the ST version (which let's face it, was a joke!), but the Amiga version still fails miserably to capture the adrenalin-pumping atmosphere of the arcade original. Well Activision, better luck with Amiga *R-Type*!

Message Port

Have you any views on any issues raised with AmigaBLIT or even just the Amiga scene in general? If so, why not put your views on paper and send them to me. Similarly, if you have any great tips for any software package on the Amiga, be it a game or a more serious application, then I'd also love to hear from you. Send your mail to: AmigaBLIT, New Computer Express, 4 Queen Street, Bath BA1 1EJ.

● **Fright Night:** Where is it then, MicroDeal? After months of waiting, *Fright Night* still isn't with us, but lets give Steve Bak's latest creation a plug anyway. You play the part of Charlie Brewster's ominous neighbour Kylie Minogue, er... Jerry Dandridge, aka Vampire at large. You must move menacingly around your mansion home during the hours of darkness, sucking the blood of anyone who crosses your path. However, all is not in your favour as you have very little time in which to drink as much as possible before the cloak of darkness lifts. Sounds like a Friday night out on the town to me!

● **Road Blasters:** US Gold's Amiga conversion of the oh so impressive arcade machine is almost finished and should be out on the streets pretty soon. The game is being programmed by those rather prolific chaps at Probe Software and first impressions are good (but you know what they say about first impressions!).

Jason Holborn

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SPEX

Budget bonanza

Forget international arms treaties, human rights agreements and other trivial matters. The best thing to come out of Perestroika and Glasnost was *Tetris*. This Russian game was so incredibly addictive I reckon it can be blamed for at least a 10 per cent drop in national productivity.

In workplaces the nation over, every time the boss is nowhere to be seen it's a good bet that the employees put work to one side and load *Tetris* up on the office PC. That's what happens in Future Publishing, anyway.

Tetris is a fast-moving, unspectacular looking puzzle game which is set to make a budget reappearance on the Spectrum. And the good thing is, that out of all the home computer versions I have been forced to play, the Speccy one is the best. There are none of the added frills or fancy bits that were programmed into some conversions. On our machine we're left with a pure form of the game which has a dangerously powerful 'just one more go' factor.

Definitely not the thing to load unless you can afford to take at least two or three hours off work.

Whilst I'm in a nostalgic mood, a few other games I can't let you miss and keep a clear conscience are now available at a budget price.

Firstly, two decidedly wacky arcade adventures called *Skool Daze* and *Bak to Skool*. The hero of both is a humble schoolboy who fights against evil teachers with an array of weapons ranging from stinkbombs to mice. Brilliants stuff.

Also *Leaderboard*, an excellent conversion of a boring sport guaranteed to give golf fans palpitations. Buy all the above and you'll have four games good enough to last you the rest of the year, and for under a tenner as well. I really must stop saving you untold fortunes.

Snow joke

That one-time national hero now relegated to occasional appearances on *Blankety Blank*, Eddie Edwards, is due to star in a game out on the Speccy soon.

Eddie Edwards Super Ski is a simulator with four events – slalom, giant slalom, downhill and jump (that's the one Eddie's good at). The graphics are big and fast-moving, and the whole thing looks surprisingly impressive. Release date is early April.

US Gold is preparing to release *Chicago 30s*. Apparently this is a horizontally-viewed shoot-'em-up set well and truly in gangsterland. The hero of the piece is Detective Elliot. He has to shoot his way through five levels to an illegal alcohol warehouse (where he'll no doubt have a swift half in celebration).

Games of two halves

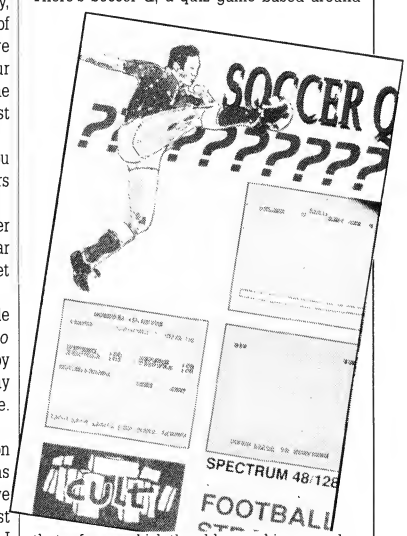
What is it about the Spectrum that attracts so many games based around soccer? There's no way you could hope to count all the titles which have attempted to simulate the sport without taking your shoes and socks off at the very least. And just when you thought you were as sick of them as any self-respecting parrot could possibly be, another whole division comes along, each one promising to send you over the moon.

They can usually be divided into two distinct types: playing and management. *Emlyn Hughes' International Soccer*, thankfully not much to do with the great man and his sweaters, is a fairly enjoyable stab at both. The playing sections is good, but unfortunately the strategy half is unrealistic, and you can't help thinking the programmers would have gone for an out and out match simulator.

Professional Soccer, from CRL, is clearly shooting at the management goal, and scores – just about. It's the usual idea of starting at the bottom and working your way to the top by wheeling, dealing and lots of luck. You can experiment with different formations and watch the results, safe in the knowledge you never have to embarrass yourself by actually waggling the joystick and playing.

Both games are perfectly worthy attempts at Spectral footie, but look like fourth-division material when compared to *Match Day II* or *Football Director*.

Cult, a relatively small budget label, has got yet more football games ready to join the fray. There's *Soccer Q*, a quiz game based around



that funny kick-the-old-cow-skin-around-a-field game called football, *Soccer Star*, a graphical management game, and *Cup Football*, where you have to lead your team to – yes, you've guessed it – cup final.

The great thing about playing football on computers is the way it allows you to achieve results which would be impossible in the real thing. I mean, heck, just the other day I guided England to an amazing nil-nil draw with the People's Republic of Nuristan!

Dirty devils

The indescribable gunk which collects in your +3's disk drive can be a worrying thing. But fear not, help is at hand.

Capri Marketing, on 06285 31244, has a 3" disk head cleaner at the quite reasonable price of £6.99. This should eliminate the problem quickly,· cleanly and with the minimum of fuss, allowing you to sleep soundly once again.

Robin Alway

Post haste

Got anything interesting to say on the state of the Spectrum? If you can't stretch to that, something boring will do. Other things I like receiving are hints, tips and pokes, software recommendations, fanzines, grievances, plugs for companies or user groups and comments about the column. Send to Robin Alway, SPEX, New Computer Express, 4 Queen Street, Bath BA1 1EJ. Look forward to hearing from you.

SECTOR 64 SECTOR

Head cleaner plus

Interceptor is re-releasing the Azimuth tape head cleaner package with games like *Joe Blade*. This was released a long time ago, and did extremely well.

Sampling samplers

When you get home after buying your weekly game, you play it and freak out because it's got speech and sampled music. But you too can have a go, because there are plenty of samplers on the market.

Trilogic has a few, which are pretty cheap and ideal if you're just playing around. Using the joystick port, however, can make the results a little unclear to the ears.

One of the best samplers around is from Commodore. The hardware plugs into the cartridge port, and includes a volume switch to adjust the sample perfectly.

The best 8-bit machine in the world

It is perfectly clear now that the Amiga and ST have followed in the footsteps of the C64 and those of the crummy old Speccy. There is no doubt about it – the C64 lives up to its original catchphrase, "The best 8-bit machine in the world". Not only is the C64 doing things the ST would find impossible to do in real time, it's also cloning some Amiga A-Fx.

We've mentioned quite a lot of the things the 64 can do in this column before, but as time goes on, ever more new things turn up to write about. It's not just eight sprites any more, it's as many sprites as you can plex per vertical blank. The screen how has a Y co-ordinate followed by an X co-ordinate, and all the borders can be totally filled up with as many sprites as will fit. You can wobble the screen past eight pixels, too. Aren't you glad you bought a C64? Or if you haven't, what a plug we just gave Commodore!

Apart from all these wonderful tricks, the C64 can also play perfect sampled digi music, which brings us onto one of the recent Ash + Dave demos. Called *Digital Acid*, this demo plays a cool remix of *Humanoid*. It's quite funny, with lots of little smiling faces popping up all over the screen. Certainly a demo to show off with.

New releases

Rock Star ▪ Code Masters

Lots of guest appearances from well-known (change the names a bit) pop stars. Well, it's only to be expected. I don't think anyone would like to buy the licence for Michael Jackson.

Join the fast reset

For those of you who get tired of waiting while your C64 resets (you must be impatient!), here's a short listing to speed it up five times.

```
10  FORL=0TO8:READA:POKE32768+L,A:NEXTL:
11  PRINT"■?YOUR COMPUTER NOW HAS A FAST RESET"
20  DATA 248,252,248,252,195,194,205
30  DATA 56,48

READY
```

Reset Jump

This is caused when the computer finds the codes CBM80 stored at location $8004 onwards. Once found, the computer then jumps indirectly to the first word every time the computer is reset, and also jumps indirectly to the second word every time the restore key is pressed.

$8000	F8	FC	F8	FC	C3	C2	CD	38	30
	lo	hi	lo	hi	C	B	M	8	0

The location in the first and second words is $FCF8. To stop the reset just fill those 9 bytes with zeros.

Of course, sometimes it's not just the hardware you have but the software that goes with it. A 4-bit sample will be clear-ish and take up a small percentage of memory, where an 8-bit sample will be very clear and eat all the memory up. For best results all round, we would suggest a 4-bit player, as long as it's written OK. But how do you tell what you're buying? The awful truth mostly appears once you've spent all your hard-earned cash and got the thing home. Whoever you're buying from, question them first. Hopefully, now that you've read this you'll have a better idea what to ask.

Rumours

Whispers are reaching us that a new games bundle will be put together by Commodore in the near future. The current offer is getting a bit long in the tooth, even though it's been very popular. Let's hope even more computer buyers will be attracted to our machine with a great new line-up of games. Pencil in the Commodore Show in late June as a real possibility for any announcements about the new bundle.

The taxman cometh

No more news as yet on Commodore's massive tax bill earlier this year. If you haven't heard about it yet, it was for $74.1 million!

Apparently, this was for 'tax discrepancies', so make sure you read the instructions next time you fill in your tax return form!

Ian + Mic

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PCW PATCH

The Dirty Mac Brigade

This bloke goes into a computer shop and says, 'I'd like a word processor please, give me an Apple Mac', and the chap says, 'Ah, you're a comedian, aren't you' and the bloke says, 'Have you seen me on telly?', and the salesman says, 'No, but anyone who wants a Mac just for word processing must be a joker.'

Ben Elton, Douglas Adams and Stephen Fry all use Macs. Why? Word processing on its pokey screen is like following a tennis match through a telescope – unless you restrict yourself to sentences of less than five words and words of no more than four letters (which might explain something in Mr Elton's case).

I can't help feeling these writers have been conned into getting Macs by the very image-consciousness they themselves like to despise because they're seen as 'the' machine to have. What a waste; the PCW plus *Protext* is the ultimate writer's machine, and several grand cheaper than a Mac.

Softly softly ASCII question

Pushed for space on a disk with stuff you only want to keep for archives? Why not save your LocoScript files as ASCII ('Make ASCII file' from f1 in Loco 2 or f7 in Loco 1 in the disk manager, selecting 'simple text' file, and erase the original). You'll save 15%-20% of your disk space.

Got a tip to pass on? Or just a PCW point to make? Write to me at: PCW Patch, 4 Queen St, Bath BA1 1EJ.

You read it first here

- A hardware add-on is currently under development which would enable you to read, and start up from, a B disc in an A drive
- Technology is being developed to enable the B drive on an 8512 to be replaced with a hard disk of the same size as a normal B drive but capable of storing 20Mb (equivalent to 28 B drive disks)
- Laser printer drivers are under consideration from several producers of word processing and desktop publishing software

Stay tuned for further details...

Incorruptible businessman

While admiring the efforts of sponsored walkers and sponsored swimmers and sponsored sitters naked in tubs of porridge, you can't help feeling that they are raising money by doing something fundamentally pointless. So it's nice to see something useful being done to make money for charity. Dave Smith, who makes money for cancer research by recovering data from corrupted disks, has now set up a small company, Dave's Disk Doctor Service. For a few pounds you can have some or probably all of your data recovered after those dreaded 'Address mark missing' and 'Disc error' messages. Info on 089 283 5974. All profits to BACUP, the Cancer counselling charity.

Basil Pigg

QL corner

Quanta workshop

The Northampton *Quanta* workshop has just taken place, with about 150 people attending on the Saturday. Apart from the hardware, there were talks on various topics delivered by such luminaries as Tony Tebby (designer of the QL and now runs QJump), Freddy Vaccha (Digital Precision), Simon Goodwin (*Supercharge* and *Turbo* compilers) and John Silk (PDQL).

QL hard disk

Several hard disks for the QL were in evidence at the workshop: Dave Richards with his home-brew transputer-based system, Rebel Electronics Ltd with a couple of nice-looking interface cards (it had only just received the controller chips, so it couldn't demonstrate its system), and the Miracle Systems unit, the first few of which are about to be shipped.

The Solution

Digital Precision's DOS emulator, *The Solution*, has now arrived. Several people at the workshop were using it, and it appears to do everything claimed for it, but is rather slow. The keyboard response is especially irritating: you type several characters, and it seems a long time before they appear on the screen. Actually, emulating a completely different architecture such as the 80x86 on the QL's MC68008 processor is quite difficult and the programmer who performed this feat is to be congratulated for achieving this level of performance.

The Solution allows QL users to use the vast amount of excellent public domain software available for the PC for far less than the price of even the cheapest PC clone, and is good value at £79.95. For another £50 you can get the latest version of MS-DOS (4.01), which most PC users don't have yet.

Super User Bureau QL Club

The fifth magazine for the Super User Bureau QL Club will be published this month. The 17 month old club – a member of the BACC – can be contacted on 0388 450610. A previous issue of Express carried an incorrect number. Scribblers can write to the club at PO Box 3, Shildon, County Durham, DL4 2LW. The club also has a bulletin board on 0388 773737.

Deltasoft Flightdeck

Flightdeck is a flight simulator program (not a game). It was obviously written by a pilots, and appears to be quite realistic. You control a Boeing 737, with the various instruments displayed in the lower half of the screen, and the view from the cockpit displayed in the upper half. Navigation aids are provided, and the program comes with a database of navigation beacons and runway details.

There are a few shorcomings – no collision checks, for instance. Deltasoft also produces a flight planning package for pilots. *Flightdeck* costs £22.95 from **Deltasoft, 11 Dumaine Avenue, Stoke Gifford, Bristol BS12 6XH.**

John Torofex

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BEEB BOX

Cue tips

If you are a regular reader of this column you will recall my talking about *3D Pool* in somewhat ecstatic terms. Well I have now played it – so does it cut the mustard (or the green baize) and blow away all other snooker/pool/billiards games?

The answer has to be...maybe. Yes, the game does give full perspective views of the table, and you can stalk round in like Alex Higgins in head-butting mood. However, on the Beeb version at least, it can be a little difficult to line up a shot. This is mostly due to the coarseness of the graphics. It is still very impressive, though, and the range of options is wide enough to suit almost any player, with tournament, two-player and trick shot options all on the menu.

A little birdie

As we seem to be in sporty mood this week, I'm also going to talk about *Holed Out!* I was most impressed with this golfing simulation (possibly due to my getting an eagle on the first hole). Very strongly reminiscent of *Leaderboard* on the Amiga, the game claims to give full 3D views of every shot. I would say, however, that excellent perspective would be nearer the mark.

Once again, there are a host of options – strokeplay, matchplay, four skill levels and two courses are available. Some rather nice sampled sounds are included, but most impressive was the instruction leaflet, which runs to 15 pages, plus a quick reference card.

Of course, as with all simulations, you have to have at least some interest in the sport. But this game, and *3D Pool* have the refreshing advantage of not having you do unnatural things with a joystick to play them...

Desktop design

I seem to have strayed into the area of DTP, so here are some ways of improving the look of your dot-matrix output. Use text sizes slightly larger than you need and reduce to the correct size using a photocopier. Line artwork, i.e. pencil-type drawings, reproduce the best. Avoid photographic images at all costs. Finally, keep it simple stupid (KISS) is the golden rule – so no more than two fonts on a page.

Andrew Brown

Mouse dropping

Going through the pile of (mostly uninteresting) press releases on my desk, I notice that Watford Electronics has taken over the entire AMS product line. This is because Logitech, the parent company, is severing its links with the 8-bit world and moving over into the grey world of PCs. The product line, which includes the AMS mouse, Super Art and Stop Press, competes directly with products such as Wapping Editor and the Quest mouse. So it should be interesting to see which line Watford will promote the most heavily.

MSX TRA

Drawing interest

I have been sent details of a new drawing program for the MSX 2, called *Salas-Freehand*. Although I haven't had the chance to try this package out, I have seen the results, and they're most impressive.

Supplied on 3.5 inch disk, the program is written completely in MSX 2 BASIC so should run on any MSX 2 machine. According to the manual, the program features unique options, such as the ability to copy and transfer objects from one part of the screen to another. You can also save objects to disk for later use, and edit objects in 3D. These can be filled and changed later, using any of the tools or zoom option. The program makes use of the MSX 2's "mouse" for drawing and for the selection of "icons".

The program is fully menu-driven – the only key you need to use on the computer is the function 1 key, which acts as an "undo" key.

Anyone looking for a cheap and easy MSX 2 drawing program should try *Salas-Freehand*. It only costs a tenner, and can be purchased from MSX Link, 11 Ayscough Avenue, Spalding, Lincs. An MSX 1 version of this program is available on tape from the same address. Send an SAE for details.

Konix Hotshot

Konix has sent me its latest joystick, the Navigator, for evaluation. The device is shaped as a pistol grip, with the fire button at the front for your trigger finger and a short, stubby direction control on the top. It is fully micro switched like its predecessor the Speed King, and has manual or autofire.

So how does the thing handle? No punches pulled, I think the Navigator is the best joystick I have ever used – and I have used plenty. I found it particularly comfortable to hold, fitting my hand like a glove. The micro switches are responsive, as is the fire button, and the construction bodes well for a long life.

The Navigator sells for £14.99 and is worth every penny. Nice one Konix. I can't wait for you to send me one of your consoles to try (hint, hint).

Extra MSX?

I keep hearing rumours that the MSX 2+ will be officially launched in the UK in the Autumn, but none of the major hardware companies seem willing to either verify or deny this.

It does seem plausible, though, that any launch of these new machines would be announced at the Personal Computer Show in September. Keep your fingers crossed.

Plane talking

I have heard that *Flight Simulator 2* is now available for the MSX. This is one of the best simulators available for the home micro, and is worth waiting for. More details of a price and a supplier next week – that is if this isn't yet another "rumour".

Keith Neal

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CPC centre

Light gun stunner

An exciting development has been announced for the CPC games market. Amstrad, under its 'Amstrad Fidelity' label, is bringing out the Magnum lightgun at the end of next month. Virgin Mastertronic, which has exclusive marketing rights to the gun, is to bring out the Magnum with half a dozen specially designed games – *Ground Zero, Starship Encounter, Solar Invasion, Robot Attack, Rookie* and an as yet unnamed sixth title.

The Magnum is to cost £29.95 which, considering you get half a dozen games thrown in, is amazingly cheap. With such a strong start it's to be hoped that the lightgun will become quite a feature in the CPC market. Me, I'm just waiting for an opportunity to play *Operation Wolf* using one!

Only a couple of months ago, you may recall, we revealed that Electric Studio was working on a similar device. It seems that the light gun is an idea whose time has come.

Barbarian is back

At last Palace has completed *Barbarian II*. It's been a long time coming, but the wait has been worthwhile (especially at the reasonable price of £10 tape and £15 disk – which is a fiver less in each case than Elite's *Question of Sport*).

It's a hack 'n' slay in the finest traditions of that gory genre, with your character – either an axeman or a sword-wielding woman – taking on some twenty grotesque monsters in a fight to the death. Now it must be said that for sophistication, intellectual stimulation and subtle characterisation you'd be better off with *Psycho-Pigs UXB*, but in my experience most games players sometimes want nothing more mentally taxing than a good old bloodbath – exactly what *Barbarian II* is. What redeems it is something very few CPC games can boast: wit.

When your character has had all the chopping he/she can take (I'll use 'she' from now on, since that's the character I always choose) she sinks slowly to her knees before falling flat on what's left of her face. It does lose something in the translation, I concede, but in my book any game that makes me laugh out loud as my character gives up the last of her lives must be worth a look. Or take again what happens when you face several of the nasty brutes who can bite your head off. Having done so they swallow the thing whole – before letting out an impressive and embarrassing burp!

Sounds a bit too gruesome for you? Fair enough, though since we're talking about sprites less than an inch high here I don't think you need reach for Mrs Whitehouse's phone number. It does sound the kind of thing she'd be happy to offer a few outraged squawks about, though, so if Pete and the rest of the guys at Palace find they don't get quite the same level of publicity from using Ms Whitaker the second time round, perhaps they could tip off the old dragon that there's something nasty going on in the computer game world again?

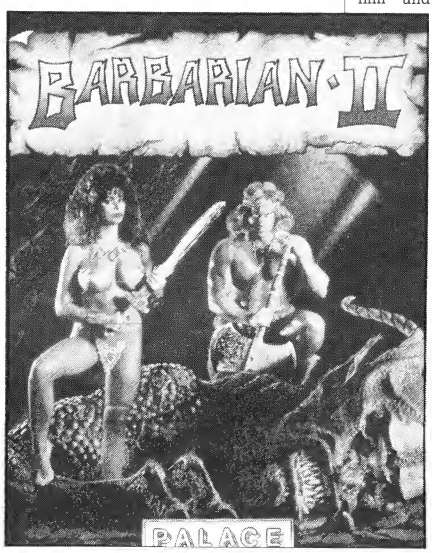
ASA strikes again

I've had several letters recently from people who've recently bought CPCs from Dixons and discovered that they don't contain the Amstrad software bundle. The extraordinary thing is that, because it's advertised as a 'free' offer, there's no obligation on anyone to fulfill the promise! So naturally Amstrad is saying that it's Dixons fault for not 'participating' in the deal, and Dixons is saying it's Amstrad's fault for producing the misleading literature.

Not entirely unconnected with this subject is the news that the Advertising Standards Authority has recently had cause to rap Dixons' knuckles for its pre-Christmas inability to supply the software bundle and vouchers it was advertising with the CPC. That ASA edict had them quaking in their boots. They won't pull that stunt again!

Firmware manual for sale

Since Amstrad dropped the CPC firmware manuals I've had a constant stream of letters from people wanting to know where they can get hold of a copy. Unfortunately I don't know of any sources – anyone who could tip me the wink would be doing the whole community a favour. In the meantime a Mr George Phillipson of Wakefield has a copy of the 464 guide (SOFT 158) in mint condition for sale at £15 including post. Ring him – and not me! – on 0924 822778.



• The fantasy of every hetero adolescent male – whatever his age?

Runs like clockwork

Had a letter from Joe Florek recently telling me about the nattily named Clockwork Orange Software, which started off life as a PD software library last September and has now progressed into a disk-based fanzine-cum-newsletter. The only drawback to this that I can see is that you can't read it in the bath. Send a miserly 50p (which 'includes p&p, VAT and ESP'!) and a disk to: **COS PD, 11 Stanley Villas, Greenway Rd, Runcorn, Cheshire WA7 4NW**.

By the way, I'm very happy to pass on more such messages. Get writing to: **CPC Centre, New Computer Express, Future Publishing, 4 Queen St, Bath BA1 1EJ**.

Steve Carey

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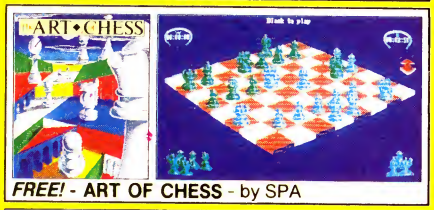

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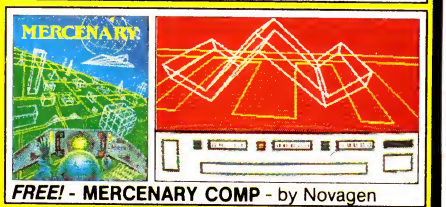

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HELP!

64 digitiser

I have just bought my first issue of New Computer Express #17, and think it's great. Could you please tell me if it is possible to get back issues? Also could you find out if there is a video digitiser for the Commodore 64?

Adrian Sharp (aged 13 3/4), Whitehaven, Cumbria

• Aaahhh, praise... Yes it's possible to obtain back issues and here's how to do it: send a cheque or postal order for 75p (which includes postage and packing) stating the issue you require, to **The Old Barn, Somerton, Somerset TA11 7PY**. Don't be disappointed if we don't have the copy you want though, back issues don't stay on the shelves for long!

A Commodore 64 digitiser huh? Hmmm, several digitisers were imported from Europe in the heyday of the C64, but now they're bit thin on the ground. CRL used to market one and you can contact the company at **7 Kings Yard, Carpenters Road, London E15 2HD**. Tel: 01 985 2391. If it can't help than try an ad in the classifieds which *Express* will be starting shortly.

HELP!

PC printing

I recently purchased a Sinclair PC200, monitor and printer from Comet. Unfortunately, the printer did not have a manual with it and the only labelling on it is a sticker which proclaims it to be a "Series 200 printer".

My problem is that I am trying to get to grips with *PC Calc+*. Whenever I try to print the spreadsheet it prints all right if I print it horizontally, but when I try to use the file P90 on the disk I get garbage.

I enclose a sample of the output. Can anyone save my sanity?

E P Ingram, Paisley, Scotland

• In the first place, go back to Comet and insist on a manual for your printer or a refund. I guarantee you there will come a day (and despite what you think, it hasn't arrived yet) when you won't be able to use your system without a proper manual.

Second, I've never used *PC Calc+* and I don't have a copy to hand so it's a little difficult to say what the problem might be. From the printout you sent it looks like a spreadsheet file but it bears a strong resemblance to a file containing formulae and not the actual spreadsheet itself.

Furthermore, from the directory print you enclosed I spot a file called P90.EXE which suggests that the file P90 is to be used exclusively with the program P90. When you turn on your PC, try running P90 (simply type P90 <enter> at the A> prompt) and see what happens.

Also from the directory, there isn't a documentation file. This is normally called README.DOC or something similar and is where you'd expect to get information about the files on the disk. I believe *P C Calc+* comes on several disks so it might be on one of the others. Look for it and read it (you can TYPE it to the screen or your printer) and you might find that all is revealed.

But do get your printer manual problem sorted out. Without the manual the printer isn't fit for the purpose for which it was sold – so Comet doesn't have a leg to stand on.

TIP

PC pointers

Here's a couple of tips for PC owners. There is an undocumented file recovery command in MS-DOS 3.2. It's best to experiment but it does seem to recover accidentally deleted files – just type RECOVER A: (or whatever drive you want).

Second, if you add a sub-directory or new folder called PATTERNS in your Images and Gemapps directories you can now, when selected, save and load patterns (which appear on the right-hand side) when using Gem Paint.

Kashif Quraishi, Hayes, Middlesex

HELP!

PC purchase

I am considering buying a PC and wonder if you could help me. I have been offered a Commodore PC1 for £300 but can find no test reports or even any of your advertisers offering the machine.

In your paper of 16.2.89 you mention the Schneider Euro PC. I have been unable to find a supplier in my area so could you give me any information on the machine.

J Woods, Guisborough, Cleveland

• The Commodore machine comes in two guises: the single disk or the double disk version, costing £299 and £399 respectively. Dealers? Try: **SK Marketing, 10 Fulham Broadway, London SW6 1AA**. Tel:01 381 6618/9.

The Schneider PC is an 8088 machine running at 9.54mhz. It has 512k of RAM and uses a Hercules/CGA graphics adaptor. It has expansion ports for a printer, modem, mouse and joystick, and comes with a single 8-bit half-size expansion slot. It costs £459 for the mono version and £631 for colour.

However, buying a dedicated monitor needn't be as expensive as you might think. If word processing is going to be your main use you might consider buying a green-screen or black and white monitor, using your TV only for low-res colour applications like games or some graphics programs.

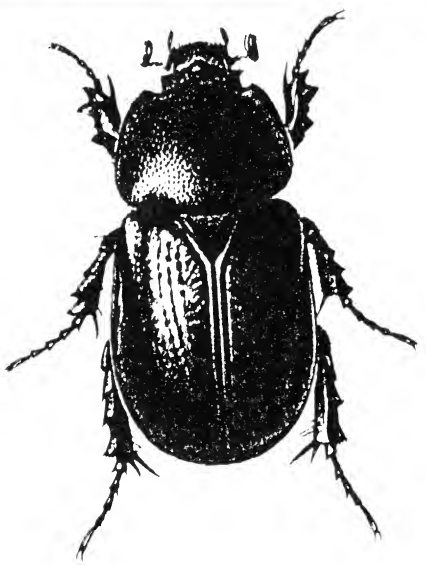
Evesham Micros (0386-765500) sells a Pye 15" dual mode TV/monitor for £269 if you decide to upgrade. Atari's black and white monitor for the ST will cost around £110 from any decent ST dealer, and a suitable mono monitor for the Amiga will cost about £80.

There really isn't room to go into all the suitable graphics software for both the ST and Amiga – there's simply too much of it. However, *Deluxe Paint* on the Amiga and *Degas Elite* on the ST are good starting points.

BUG OF THE WEEK

I've just bought *WordStar IV* for my PCW9512, and I'm having trouble printing £ signs. More to the point, *WordStar IV* insists on printing them as '1's!

Clive Ogilvy, MD



• Pentodon idiota
This beetle is the only one of its species found in Europe. It can make shrill sounds by means of a stridulatory device on its propygidium, thus making it useful for mounting inside PCW sound chips. Occasionally, however, it will escape, and has been known to chew through the keyboard cables alongside.

HELP!

TV quality

I have been seriously considering buying an Atari STFM or a Commodore Amiga A500 which I hoped to plug into my Ferguson TX colour television. This only has a standard aerial socket fitted.

After reading your article on monitors in issue 15 I have the impression that if I do go ahead and buy one of these computers, using the modulator to connect them, then I will have to expect a picture quality of unacceptable standard. I intend to use the computer for a variety of purposes but particularly word processing.

Could you tell me if this assumption is correct, and if so would it be possible to modify the television to accept a better signal such as RGB?

Second, could you recommend some software to allow the drawing of graphs, tables and maps.

Bruce Mackie, Withington, Manchester

• A television is really only suitable for games – and only then if you're not too demanding, given the graphic quality of the Amiga and ST. You certainly shouldn't consider using a TV for word processing.

Some TVs are dual models, supporting monitor-quality displays in addition to normal TV standards, but unfortunately your Ferguson isn't one of these. So your only choice is to buy a dedicated monitor, or upgrade your TV to the dual monitor standard.

HELP!

Tape to disk

I have a Spectrum +3 and would like to know how I can copy my tape software to disk. I hope you can be of help to me.

Brian Cox, Bewbush, Crawley

• The eternal question! Tape software is usually replete with several layers of heavy protection. You can't just copy the relevant files to the disk – as you've no doubt discovered! Fortunately (for you, if not for the software houses), there are commercially-available utilities which will remove the protection and allow you to transfer the program. Mail order advertisers are the best source of these. Try: **Kobrahsoft, Pleaseant View, Hulme Lane, Hulme, Nr. Longton, Stoke-on-trent, Staffs ST3 5BH**.

HELP!

Comms choice

I have a Spectrum +2 and a PCW 8256. I want to buy a modem but as connecting to Micronet and other viewdata services would be very expensive from here in Ireland I don't need a 1200/75 baud rate. A 2400 baud would be nice as a lot of Irish services run on it. My price range is up to £160.

The Datatronics Discovery 1200

TIP SuperNorm to the rescue...

In issue £19 you had a letter from T. S. Yeo of Dunbarton, Scotland.

I would be grateful to you if you could pass on to him this disk notcher. I had a C64 for over three years and had no trouble with using side two of the disks.

Also a word to Tarquin Burnett about STOS. I know very little about BASIC, but have just finished my first demo. If you want a copy of my demo, just send a SAE and a disk.

Keep producing a great (cheap) mag, which knocks spots off the other weeklies.

Norm Tierney, 5 Campion House, Mayville Est, Matthias Rd, London N16 8LN.

• What a nice guy! Just for you Norm, the *Express* (bit of software at the back of the cupboard, that no-one else wants), super, silken-bound, bijou and compact good-samaritan prize of the week.

CK would be my ideal modem but I don't know if it is compatible with either of my computers. Can you help, or suggest which computer I buy a modem for and what model of modem should I buy?
Eoin Carroll, Galway

• As a general rule, I'd recommend you employ your PCW as the comms machine since the 80-column display will make life easier for you. However, you'll need Amstrad's RS232/Centronics interface to drive a modem and since that costs around £60 it takes a hefty chunk out of your budget.

Secondly, I think you're going to be disappointed on the 2400 baud facility. I'm ready to stand corrected on this, but I think Amstrad's own 2400 model is currently the cheapest on the market at around £225 with most rivals nearer £300.

The better news is that just about any modem is compatible with any computer provided the computer supports RS232, so you needn't worry about the Discovery 1200 – other than the provisos noted above about the PCW interface and the fact that it's only a 1200 baud modem. But if you can get a good price on one, you shouldn't have any problems.

HELP!
C compatibility

My son bought a Commodore 64c computer last Christmas, but there are a lot of good games that will not load.

The tape recorder has been checked and is OK, so I wonder whether it is a question of compatibility with the older C64 model?

It is such a shame for him to pay £9.95 for a tape and then find it is useless.

Personally, I did advise him to buy Atari, the finest 8-bit computer ever...Blah...Blah...Bore...Yawn...
Ron James, Ribbleton, Preston

•Firstly Ron, the tapes are not useless! Neither is there a problem with compatibilty between the older C64 and the C64c. The problem lies either with the tape player or a possible (though highly unlikely), fault in the tape interface port of the computer.

Buy a solvent-based head cleaning fluid (or methylated spirits), and some cotton buds.

Dip the one in the other (not the fluid in the cotton bud!), and rub the read/write head of the tape player gently but vigorously until clean.

If there is no improvement, try the tip featured in issue #19, detailing how to adjust the azimuth angle.

If all else fails, then take the computer and tape player back to your dealer so that it may be either exchanged or repaired.

ST monitors

I would like your advice about which monitor to buy for my Atari 520 STFM. I have seen adverts for the Philips CM8833 and CM8852 with a price difference of about £50. Could you tell me what the difference between these is.

In one advert the CM8852 is stated as being able to run all three ST resolutions, but in others it just says "higher resolution" than the CM8833.
J E Rollitt, Rotherham, S Yorks

I have a Prism QL14 colour monitor and connection is by Euroconnector to an 8-pin (round) RGB socket. Is it possible to get this to work with an Atari STFM? I can afford the computer but not another monitor.
M H Mottram, Beeston, Nottingham

• There seem to be more questions on STs and monitors than all other subjects put together. The difficulties seem to fall into two areas: the problem of the ST's three display modes, and attempts to use non-standard monitors.

To begin with, the ST really only has two modes: colour and mono. In colour you can have a 320x200 display in 16 colours, or 640x200 in four colours. In mono mode you get 640x400 resolution.

The colour display signal is of digital RGB type, which means it is compatible with most colour monitors designated either "medium" or "high resolution" – virtually meaningless phrases these days. It's easier to list the monitors the ST won't work with: any composite video models, and the majority of analog RGB monitors.

The mono mode is provided by a TTL mono signal which is unusual, and you are therefore restricted in the number of monitors that are compatible with the ST. The problem is that few monitors are set up to display 400 vertical lines. Generally you might as well buy Atari's own model.

The mono and colour modes are usually mutually exclusive, with one notable exception: multisynch monitors. These models – usually sold for the PC market – are able to display a variety of horizontal and vertical resolutions from incoming signals of varying frequencies. What makes them unusual is that they can recognise and synchronise to the different incoming signals – hence the name.

Unfortunately, this sophistication doesn't come cheap and multisynch monitors usually cost £200 to £300 more than single frequency models with prices around £500.

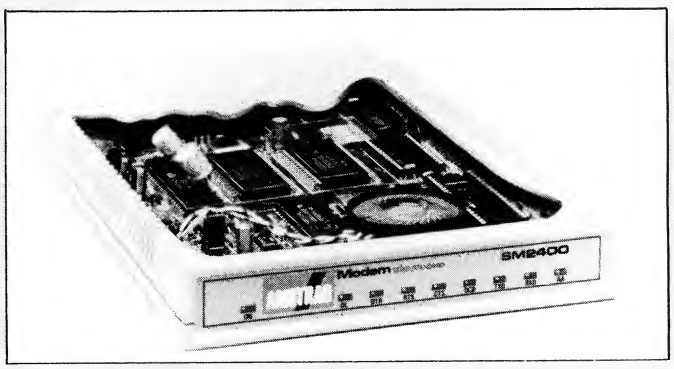
The Philips CM8833 is a genuine bargain and is widely available at around £220. It's perfectly suited to the ST and there's no reason to buy anything more expensive (you could buy one, plus a suitable mono monitor for less than most multisynch units).

A final source of confusion is dealers who don't know what they're selling: I have seen one well-known ST dealer advertising the excellent NEC Multisynch IIGS as a "greyscale colour" model. Only the greyscale part is correct since the IIGS is a black and white monitor.

The problems in connecting non-standard monitors arise, not because of signal problems usually, but because of cabling difficulties. Mr Mottram's is the first request for a QL-compatible monitor, but there have been several Amstrad CPC owners in touch about their monitors.

Generally the best solution is to contact one of the specialist firms who have the expertise in making cables for the enormous variety of monitor connects (Euroconnector and SCART are not standard, despite lots of adverts to the contrary).

One to try is Computer Connections at Ashlaw House, Euximoor Drove, Christchurch, Wisbech, Cambs PE14 9LS, tel 03548-590 (who incidentally also have the difficult-to-find Amiga 23-pin video connector).



•The ST and its monitors: More queries than everything else put together?

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HELP!
In the Stu...

Please could you help me with a problem I am having trying to get a Modem House Voyager 7 modem to work with my Amiga 500.

Only five of the pins are used in the cable, these are the first 5: GND, TXD, RXD, RTS. CTS.

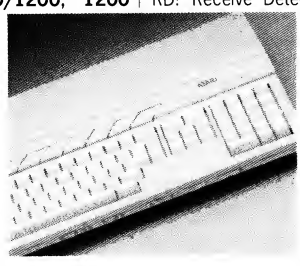
As I bought the modem second hand, I have no instructions on how to use it. On the front of the modem are five LEDs marked: POWER, DTR, TD, RD and CARRIER. What are they for? also the dial on the front has six settings: TEST, 1200/1200, 1200 Answer, 1200 Originate, 300 Answer and 300 Originate. What are they for?

I know I am asking a lot but I am sitting here pulling my hair out trying to get this thing to work.

Now for a tip. Have you ever cop-ied a file from one disk to another only to discover you have put it in the wrong directory? (*NO – Tech Ed*)
Stu Bridges, Bedworth

• Do you mean that you have a cable already made up? Here are the proper connections for a cable with the signals you describe: GND to GND, TXD to RXD, RXD to TXD, RTS to RTS and CTS to CTS from computer to modem respectively.

The LEDs are used as a visual indicator of what's happening with your call and subsequent transmission. POWER means that you have the power to the modem switched on (it is said that sarcasm is the lowest form of wit), DTR means Data Terminal Ready, i.e. that your computer and modem are ready to start transmitting. TD means Transmit Detect, i.e. you are currently sending something. RD? Receive Detect, you're receiving a transmission and CARRIER means your modem has seized the telephone line.



• Any more modem problems? See the comms feature in this issue

You have a manual modem. A modem which cannot automatically sense and switch transmit speeds or determine receive or transmit modes for itself (via software). Therefore, you have to manually dial the speed and mode that you require. TEST is a built-in modem test. 1200/1200 is full-duplex (see the comms feature in this issue for an in-depth explanation of jargon) transmission at 1200 Baud. 1200 Originate means that you are going to transmit to another modem at the stated speed – likewise 300 Originate. 1200 Answer means that you wish to answer another modem dialling yours at 1200 Baud.

Here's a tip: Don't send any more tips!

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● Some weeks we get a little depressed by the general standard of releases and this is one of them. Only *Prison* did anything like the biz in terms of graphics and gameplay – the rest were... how can we say this... indifferent. *Journey to the Centre of the Earth* was lucky to get any stars at all, whilst we only covered *Hollywood Poker Pro* to warn you off it.

BLASTEROIDS

IMAGE WORKS/MIRRORSOFT

ST • £19.99dk
Also on Amiga, Spectrum, C64, CPC, MSX

***Blasteroids* is a game for more nostalgic gameplayers, as it's the coin-op conversion of the latest variant on the classic *Asteroids*.**

● GAMEPLAY

Taking control of your three-form, transformable thruster craft, you must undergo a mission to blast every asteroid and alien craft out of the known Universe before your confrontation with its evil ruler, Mukor.

Control of your ship entails mastering rotational and thrusting manoeuvres – with wise use of your speeder/fighter/warrior craft capability being of the utmost importance. You can also give yourself a limited-time extra edge by collecting equipment released from destroyed alien craft – such as shields, boosters and cloaks.

• I think I'd sooner have asteroids

● GRAPHICS AND SOUND

The visuals are adequate but appear to have been crudely transferred from their arcade parent without due care and attention being given to enhancing them on the host ST.

Audio is split between an irritating, monotonous soundtrack and uninspiring sound spot-effects.

● OTHER VERSIONS

We haven't seen the other versions yet.

● EXPRESS VERDICT

It's not that *Blasteroids* is an inherently bad game – it's playable and quite addictive, if rather unoriginal and repetitive. It's just that we preferred playing a PD game called *Megaroids* – a game more closely resembling the original *Asteroids* – which was supplied free with our ST.

✪ ✪ ✪

Rik Haynes

PRISON

KRYSALIS

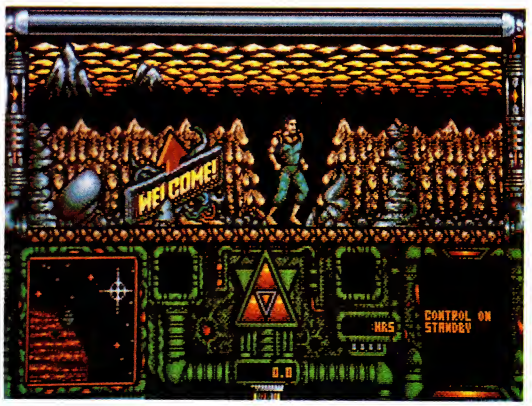
Amiga £19.95dk
Also on ST

With sexy screens from the same artists that brought you *The Munsters*, *Prison* takes you off-world on a search for escape as you take on the role of Jag Edwards. Funny how no-one's called Ken or Barry in the 22nd century, isn't it?

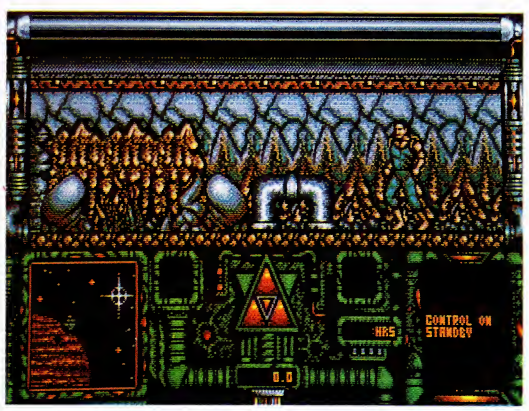
● GAMEPLAY

You find yourself wandering around Altrax, a penal dumping ground for mass murderers stalked by aliens and rat-like stooges. If these were not enough, acid pools, bottomless trenches, spike pits, proximity mines and snare explosives make Altrax just a little more challenging than a stretch in The Scrubs.

Fortunately, there's the escape pod from some long lost star ship lying somewhere around and so the aim is to find various objects needed for survival, find the pod and split post haste, pal.



• Welcome to the torture dome, you're a long way from home



• Distinctive backdrops compound the sense of atmosphere

Each section of Altrax is inhabited by a different tribe of alien psycho-nutters whom you must take out with volleys of punches and kicks. There are a number of objects concealed around the place which you must search for – pass cards, watches, explosives, valuables for trading with the stooges – the usual kind of things. You can carry up to two items at any one time, and once you've located the disparate parts of the escape pod these can be safely stored.

You have three lives per game, and it's fortunate that you can save your position at any point, since *Prison*'s mapping is very large and just finding your way around the maze is a challenge in itself. Each time you die you lose the items collected, so you'll be well advised to save regularly.

● GRAPHICS AND SOUND

Prison's graphics comprise richly detailed backdrops illustrating the run-down decay of Altrax. Sprite definition is superb and animation smooth. As day turns to night, the spectrum of colour darkens accordingly to highlight only the barest possible minimum of detail. Because of the number and variety of locations, the otherwise numbing search for artifacts is enlivened. Sound is confined to your footsteps and the groans of aliens as they hit the dust.

● OTHER VERSIONS

The ST version is identical in all departments to its Amiga cousin. There are both PC and Archimedes versions in the pipeline but *Prison* won't see the light of day on the 8-bits.

● EXPRESS VERDICT

A superior arcade adventure that provides the essential mix of good graphics and compelling gameplay, *Prison* is well worth a look. Can't wait to see the Archie version.

✪ ✪ ✪ ✪

Andy Storer

ROY OF THE ROVERS

GREMLIN

ST • £19.99dk
Also on Spectrum, C64, CPC

• Give that ball a kicking!

Comic strip soccer supremo Roy of the Rovers makes it on to the ST for a kickabout adventure.

● GAMEPLAY

It's a game of two halves. You can play a standard side-view football match or a simple linear adventure involving Roy tracking down kidnapped team mates for a charity football match. And, er, that's it.

● GRAPHICS AND SOUND

Football games are always worth booting up just to hear what efforts have been made to emulate the noise of a football crowd. It is with some pleasure that I can report that Gremlin's Melchester crowd is wonderfully bad. Other than that, the sound is disappointingly normal.

Graphics are passable if a little lacklustre but lets face it, sprite details aren't paramount for a good footie game.

● OTHER VERSIONS

You can find Roy on most of the major formats. An Amiga version should arrive soon.

● EXPRESS VERDICT

Jaded and snoozesome. The football match is all too familiar, with players moving slowly and awkwardly. One gets the feeling that it will get better if you stick around, but the game really isn't enough fun to warrant spending much time grappling with a difficult opposition. Decent football games are few and far between. This isn't one of them.

✪ ✪

John McCleary

JOURNEY TO THE CENTRE OF THE EARTH

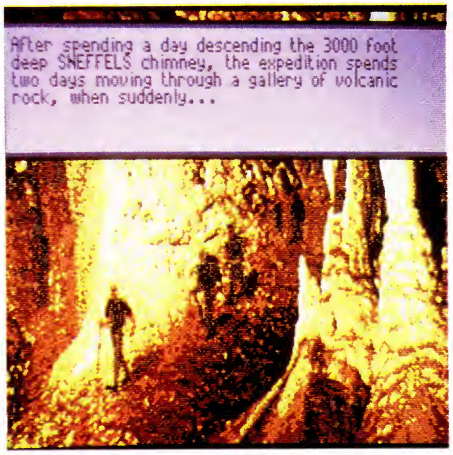
RAINBOW ARTS/US GOLD

PC • £19.99dk
Also on ST, Amiga, C64

This arcade adventure has you plunging deep into the bowels of the Earth in a search for fame and fortune.

● GAMEPLAY

US Gold has managed to put a new twist into graphic adventure games: It's made them even worse! You choose one of four possible characters (Erik Gunnarson, Francis Rutherford, Louis Bourdon or Antonio Rossi), to be your on-screen alter-ego. After staying awake through falling boulders, you are rewarded with a screen of graphic (icon) options, to enable you to progress through the game (Amphetamine Sulphate wouldn't get you through this game...). After walking along a narrow passage, I was told that I had sprained my arm, with a "shooting pain up it...", I had a pain, but it wasn't in the arm. Spelling mistakes and lousy grammar abound. After choosing the character Eric Gunnarson you are told that he is a "sportman". Occasionally, and for no apparent reason, you are dumped back on the "dodge-the-boulders" screen.


After spending a day descending the 3000 foot deep SNEFFELS chimney, the expedition spends two days moving through a gallery of volcanic rock, when suddenly...

• After two days, something's about to happen...

● GRAPHICS AND SOUND

The opening screen is accompanied by a bit of digitised music that will have Finnish kids rocking in the aisles.. Graphics? Not bad (not good, for that matter).

● OTHER VERSIONS

Do you really want to know? OK, it's available for Commodore 64, Atari ST and Amiga.

● EXPRESS VERDICT

Lasting appeal of about two minutes.

✪

Fielding Mellish

ROAD BLASTERS

US GOLD

ST £19.99dk
Also on Amiga, Spectrum, C64, CPC

• Road Blasters on Level One...

***Road Blasters* is a coin-op conversion of the Atari driving come shoot-'em-up sim.**

● GAMEPLAY

Motoring down the highway in your turbonutterGWB68 2-door automobile, you'll have to avoid or blast stingers, command cars, spikers, gun turrets, cycles, rat jeeps, mines and toxic spills as you race towards the check and rally points – all before your fuel runs out.

Along the way you'll be able to pick up extra fuel globes and dock with the support jet to give yourself special weapons like Cruise missiles, Nitro Injectors, UZ Cannons and Electro Shields. Sorry, Go Faster Stripes are nowhere to be found...

● GRAPHICS AND SOUND

The backdrops and sprites move at a fast 'n' jerky pace, and both suffer from a severe lack of fine detail. Your car sprite is tolerable, but the control panel looks extremely bland.

The sound spot-effects perform well, with admirable representations of your car's blasting, accelerating and braking noises. This is unfortunately negated by the pathetic white noise soundtrack that accompanies them.

• ...and, er, on Level Two

● OTHER VERSIONS

The 8-bit versions were just as dire as ST *Road Blasters*, with perhaps the C64 version being the worst. However, all 8-bitter versions contain inadequate backdrops, sprites and audio. If you're still interested, you can buy 8-bit versions of *Road Blasters* on a new compilation pack called *Arcade Muscle*, which also includes *Bionic Commandos*, *1943*, *Side Arms* and *Streetfighter*.

● EXPRESS VERDICT

Road Blasters is dull, repetitive and tiresome – even its coin-op parent wasn't that exciting. During play we were constantly reminded of the old Department of Transport's TV advert about the hazards of falling asleep at the wheel – yeah, *Road Blasters* is that boring.

✪ ✪

Rik Haynes

HOLLYWOOD POKER PRO

RELINE/DISTRIBUTED IN UK BY US ACTION

Amiga • £24.95dk
Out soon on ST

The last stripper we had in our offices was a French *Teenage Queen*. She left with 3 stars. Now it's the turn of the Germans to offer two-bit 16-bit entertainment for the prospective punter.

● GAMEPLAY

You choose to play stud (sic) poker against one of four women – starting with 100 credits each. You may bet on the hand dealt and on the hand left after you've dropped and drawn up to five cards. If your opponent's kitty goes below zero she offers an item of clothing. If she loses, you're presented with a digitised image of her with the item removed. Simple.

Each opponent has four stages of undress. There's no difference between the opponents in terms of actual poker play – each become more difficult to beat the less clothing they have on. The continual process of removing and replacing clothing is likely to make you more frustrated than you'd need to be to buy the game in the first place.

• Not a great deal needs saying, really

● GRAPHICS AND SOUND

Hollywood Poker Pro's 16 digitised images were recorded with a Panasonic video camera onto a JVC digital recorder and treated to Newtek's *Digi-view* package before being mixed into the screen layout using a ElectrDesign genlock. Indifferent stereo sound was mastered on Deluxe-Sound.

● EXPRESS VERDICT

Why, you may ask, do we bother reviewing this at all? Because, like all the others, it's crap. And this needs saying. Otherwise, it'll end up being another game selling on the dubious delights of packaging alone.

✪

Andy Storer

FRIGHT NIGHT

THE ARCADE GAME

If you love being scared this'll be the game of your life! The explosive gameplay of Steve Bak coupled with the incredible graphics of Pete Lyon join together to make this arcade game adaptation of the hit RCA-COLUMBIA picture.

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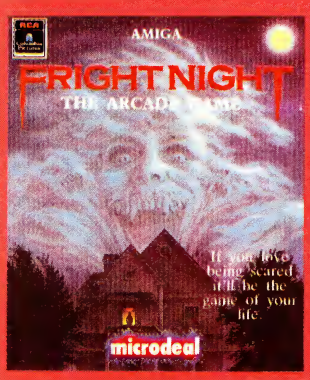
SCREEN SHOT FROM ARCADE GAME



SCREEN SHOT FROM ARCADE GAME

microdeal

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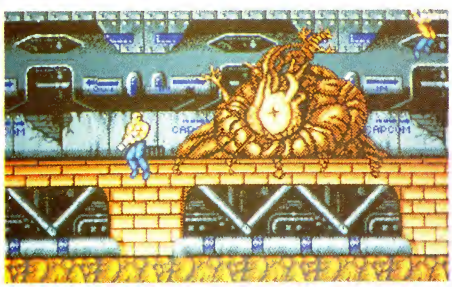
Summertime Special

Rik Haynes dons shorts and shades to preview six new games for summer

FORGOTTEN WORLDS
CAPCOM/US GOLD

Out in late spring on Spectrum, C64, CPC, ST, Amiga and PC, this horizontally-scrolling shoot-'em-up coin-op conversion throws you into a world of weird and mysterious scenery, battling against some seriously aggressive opponents. Luckily, you'll be able to buy yourself some extra weaponry along the way to balance things up.

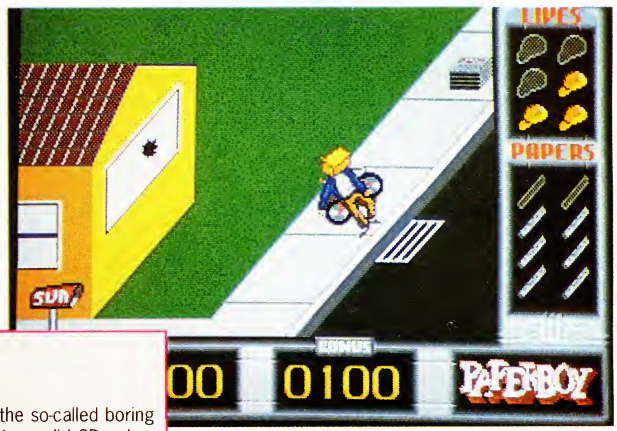


RAMROD GREMLIN

The long-awaited arcade adventure *Ramrod* should be launched in summer on ST and Amiga. Progress through four levels of vertically-scrolling "theme" landscapes drinking Pepsi, listening to CDs and playing arcade games.

PAPERBOY
CAPCOM/ELITE

Already a star of the 8-bits, arcades and TV shows – *Paperboy* is due out on ST, Amiga and PC in mid-summer. Riding on your BMX and doing your paper round, you'll have to avoid Sunday drivers, skateboarders and Sinclair C5s in your efforts to finish the round as soon as possible.



STARBLAZE
LOGOTRON

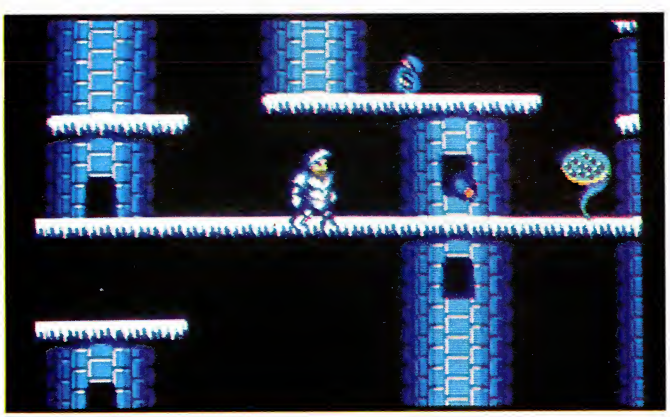
Starblaze will attempt to take out the so-called boring simulation elements from those other solid 3D epics, and replace them with pure mindless, adrenalin pumping, shoot-'em-up action when it arrives on ST and Amiga in early summer.

MIKE READ'S COMPUTER POP QUIZ
ELITE

What's Gary Numan's real name? Where did Propaganda come from? What was Depeche Mode's first single? Who "lives it up till the sun goes down"? What was New Order once called? If you can answer these pop trivia questions, then *Mike Read's Computer Pop Quiz* could be the game for you. Out in late spring on Spectrum, C64, CPC, ST, Amiga and PC.

GHOSTS 'N' GOBLINS CAPCOM/ELITE

ST and Amiga versions of this classic horizontally-scrolling arcade-adventuring platform exploration coin-op should be out in the summer. As a knight in shining armour (until you're hit), you'll encounter zombies, Venus fly-traps and other unsavoury creatures in this fight for the right to knight.



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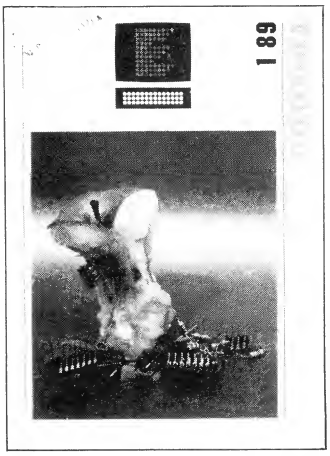

Such is the fame and success of Future Publishing, which produces *New Computer Express*, *ACE*, *PC Plus*, *8000 Plus*, *Amstrad Action* and *ST Amiga Format*, that other computer magazines the world over want to know how we do it. For example, *Elektronika* – the big computer monthly in Czechoslovakia – did a feature on us in January, marvelling at how we use Apple Macs and desktop publishing to put together our various publications.

The conclusion they reached was *Protoze Desktop Publishing je vydavatelstvi na vasem stole a stoji za to.* And I really don't think anyone would argue with that.

Sources tell us that the Spectrum is still king of the micros there, Prague is the most beautiful city in Europe, and the beer – as you'd expect in the home of Pils – is the best in the world.

V dalším patře jsem nebyl, ale prý tam má pracovnu sám šéfredaktor vydavatelství Future Publishing.

Šok číslo 3

Classified information

Want to sell your hardware or original software?

Upgraded recently and no longer need some products?

Want to publicise your user group?

Need to promote your bulletin board?

Then *New Computer Express* classified ads section is simply the best place.

From issue 23 (cover date April 15th), we are starting a new service just for you.

- It will offer the best prices and bargains
- It will reach the most active part of the UK computer market
- It will be the most cost effective way of selling your goods and services

For a strictly limited period, adverts up to 20 words will be FREE. Yes, that's right – absolutely free! But watch out: we'll soon be introducing a nominal charge for your classified ads.

Send off the form today and your ad will appear in the next available issue of *New Computer Express*.

Please make cheques/postal orders payable to Future Publishing and send them to New Computer Express Classifieds, 4 Queen Street, Bath BA1 1EJ.

Express 21 Classifieds form

One space equals one word. For the free introductory offer, all adverts must be no longer than 20 words.

Name .....

Address .....

..... Tel: .....

Please note:

1. *New Computer Express* will not accept responsibility for any minor typographical errors which do not materially affect the meaning of the adverts.
2. We cannot vouch for the quality of goods and/or services advertised in this section. All ads are accepted in good faith.
3. We reserve the right to amend or even refuse ads at our discretion.
4. No pirated software may be sold through these columns. Any readers being offered non-originals should contact us.
5. We cannot guarantee that adverts will appear in a specific issue of *New Computer Express*.
6. The following declaration must be signed:

I have read and understood the terms for the inclusion of my ad.

Signed .....

NEXT WEEK

Hard disks
Express reveals the best value for your machine

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The MSX was going to turn the computing world upside down. So what happened?

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Turn your home videos into professional films

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How magazine production has been revolutionised

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Another red-hot vindaloo of letters, reviews, beginners' sections, features, jobs, tips, games... and the very latest in news and comment on the current computer scene

On sale Thursday April 6th

Only 48p!

Order yours now!

520ST-FM SUPER PACK

The Atari Super Pack is ideal for you if you want to get off to a flying start with the best in entertainment software. The Pack includes a 520ST-FM with ½Mb RAM, a built-in 1Mb disk drive, over £450 of top games and a joystick. If you buy the Super Pack at Silica Shop, we will add our own ST Starter Kit (worth over £200), Free Of Charge. Return the coupon for details.

1Mb DISK DRIVE
£450 OF SOFTWARE

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Ikari Warriors	Elite	£14.95
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Quadralien	Logotron	£19.95
Ranarama	Hewson Consultants	£19.95
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Wizball	Ocean	£19.95
Xenon	Melbourne House	£19.95
Zynaps	Hewson Consultants	£19.99

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Seconds Out	Tynesoft	£19.95
Summer Olympiad '88	Tynesoft	£19.95

PRODUCTIVITY SOFTWARE

Organiser	Triangle Publishing	£49.95

JOYSTICK

Atari CX40 Joystick	Atari Corp	£4.99

FREE ATARI BUNDLE VALUE: £458.97

£399
INCLUDING VAT

With SM124 mono monitor: £498 INC VAT With SC1224 colour monitor: £698 INC VAT

1040ST-FM PROFESSIONAL PACK

NOW WITH TV MODULATOR

For the serious home user and the small business, we are pleased to announce a new package based around the 1040ST-FM. The 1040ST-FM has 1Mbyte RAM and a 1Mbyte built-in disk drive. In addition, the 1040ST-FM now comes with a TV modulator built-in. (The previously available 1040ST-F was designed for use with a monitor only and did not come with a modulator.) This modulator allows the 1040ST-F to be plugged directly into any domestic TV set, and comes complete with a lead to allow you to do so. The new 'Professional Pack' from Silica includes the new 1040ST-FM with modulator plus four high quality software packages including a spreadsheet, database, word processor and programming language. This 'Professional Pack' software will enable you to get straight down to business with your new computer. In addition to this software (worth £384.84), if you buy the Professional Pack from Silica Shop, you will also receive the Silica ST Starter Kit (worth over £200), Free Of Charge. Return the coupon for further information.

£499
INCLUDING VAT

With SM124 mono monitor: ..... £598 INC VAT
With SC1224 colour monitor: ..... £798 INC VAT

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NORMAL RRP: £884.82
LESS DISCOUNT: -£385.82
PROFESSIONAL PACK PRICE: £499.00

2Mb & 4Mb MEGA ST

The MEGA ST computers are styled as as lightweight keyboard with a separate CPU, connected by a coiled telephone style cable. There are two versions of the MEGA ST, one with 2Mbytes of RAM and the other with 4Mbytes. Each version has a 1Mbyte double sided disk drive built-in to the CPU unit. The MEGA ST's do not come with modulator built-in and must therefore be used with a monitor. With every MEGA ST purchased, we will add the 'Professional Pack' software (worth £384.83) detailed above, plus the Silica ST Starter Kit (worth over £200) both Free Of Charge. Return the coupon for further details.

2Mb MEGA ST
£899 INC VAT
+mono monitor = £998
+colour monitor = £1198

4Mb MEGA ST
£1199 INC VAT
+mono monitor = £1298
+colour monitor = £1498

DTP PageStream £149 +VAT =£171.35

Desktop Publishing (DTP) is one of the fastest growing applications for personal computers. We are pleased to announce a powerful low cost package for the Atari ST called PageStream. PageStream costs only £149 (+VAT=£171.35) and, because it works with an Atari 1040ST and a Seikosha SP-180AI printer, you can be up and running with a complete system for less than £1000. Some of the features of PageStream are listed to the right. If you would like further information on this program, complete and return the coupon below, ticking the 'DTP' box in the corner.

* TEXT-FLOW AROUND GRAPHICS
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* GROUPING OF OBJECTS

DO YOU OWN AN ATARI ST?

If you already own an Atari ST computer and would like to be registered on our mailing list as an ST user, let us know. We will be pleased to send you copies of our price lists and newsletters FREE OF CHARGE as they become available. Complete the coupon and return it to our Sidcup branch and begin experiencing a specialist ST service that is second to none.

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LONDON 01-629 1234 ext 3914
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ATARI ST

ST COMPUTERS

The range of Atari ST computers offers something for everyone. From the games enthusiast who wants the challenge of the very best in arcade action, to the businessman who wants to make financial forecasts or faultless presentations. The ST offers high quality graphics, sound and speed for the gamer, whilst providing a fast, user friendly and affordable solution to business. The ST is now firmly established in the home environment and boasts a wealth of users in education, local government, television, and a variety of different businesses. Software for the range stretches to cover applications as diverse as ENTERTAINMENT, ACCOUNTS, ART, COMMUNICATIONS, COMPUTER AIDED DESIGN, DATABASES, DESKTOP PUBLISHING, EDUCATION, MUSIC, PROGRAMMING, SPREADSHEETS, WORD PROCESSING and more. For a full list of the software available, as well as details of the ST range, complete and return the coupon below.

All prices correct at the time of going to press E&OE

520ST-FM EXPLORER PACK
WITH BUILT-IN 1Mb DISK DRIVE

The value for money offered by the Atari ST range is reflected in the Explorer Pack featuring the 520ST-FM computer with 512K RAM. The 520ST-FM computer now comes with a built-in 1 Mb double sided disk drive as well as a free mouse controller and a built-in TV modulator. The new 520ST-FM Explorer Pack includes the 520ST-FM computer, the arcade game Ranarama, a tutorial program and some useful desktop accessories. In addition, if you buy the Explorer Pack from Silica, we will give you the Silica ST Starter Kit worth over £200, FREE OF CHARGE. Return the coupon for details of our Starter Kit and of the full ST range.

£260

ONLY £2.51 PER WEEK
RETURN COUPON FOR DETAILS

+VAT= £299

+ SM124 mono monitor: £398 INC VAT + SC1224 colour monitor: £598 INC VAT

WHY SILICA SHOP?

Before you decide when to buy your new Atari ST computer, we suggest you consider very carefully WHERE you buy it. There are MANY companies who can offer you a computer, a few peripherals and the top ten selling titles. There are FEWER companies who can offer a wide range of products for your computer and expert advice and help when you need it. There is ONLY ONE company who can provide the largest range of Atari ST related products in the UK, a full time Atari ST specialist technical helpline and in-depth after sales support, including free newsletters and brochures delivered to your door for as long as you require after you purchase your computer. That one company is Silica Shop. We have been established in the home computer field for ten years with an annual turnover in excess of £8 million and can now claim to meet our customers requirements with an accuracy and understanding which is second to none. But don't just take our word for it. Complete and return the coupon below for our latest literature and begin to experience the Silica Shop specialist Atari service.

SILICA STARTER KIT: Worth over £200, FREE with every Atari ST computer bought from Silica.
PROFESSIONAL PACK: Free business software with 1040ST-FM and MEGA ST's bought from Silica.
DEDICATED SERVICING: 7 full-time Atari trained staff with years of experience on Atari servicing.
THE FULL STOCK RANGE: All of your Atari requirements from one place.
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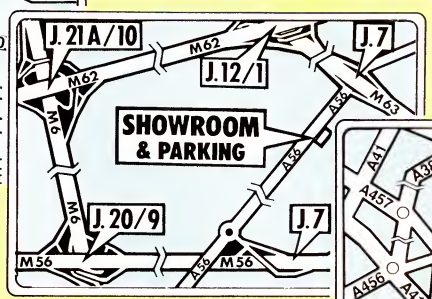

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